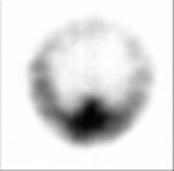
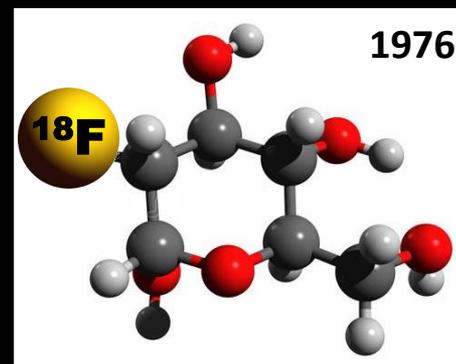
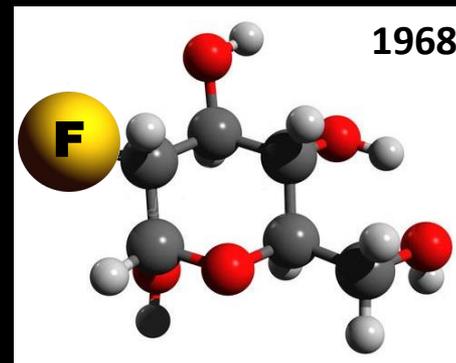


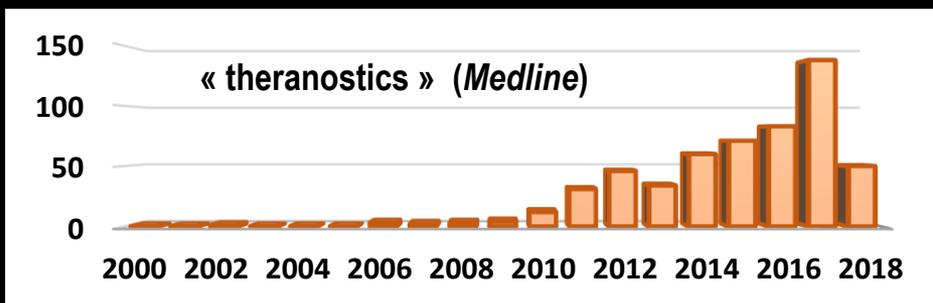
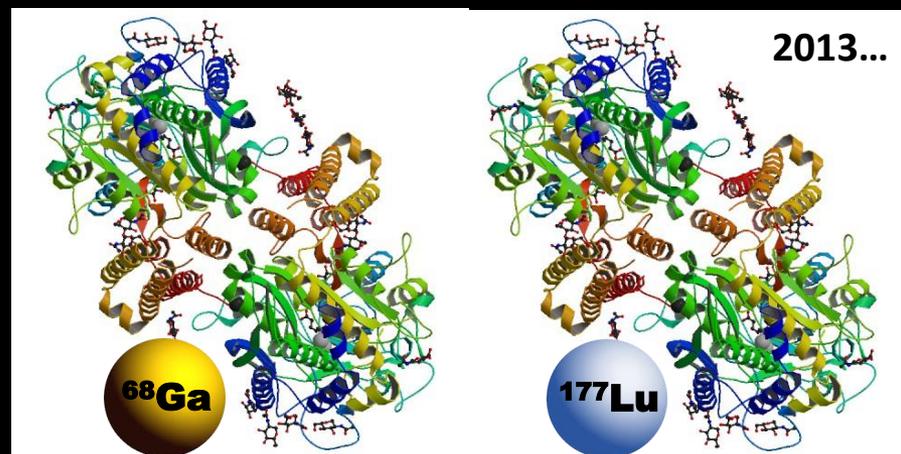
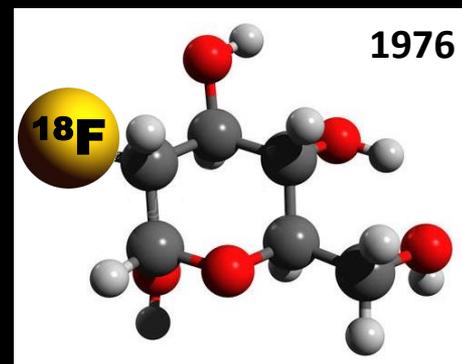
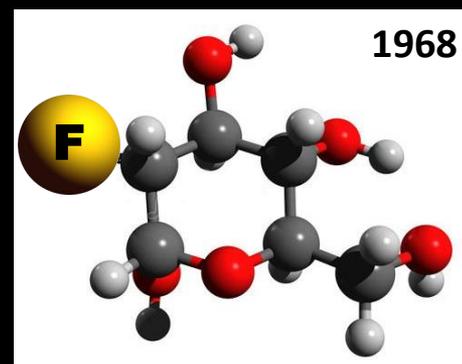
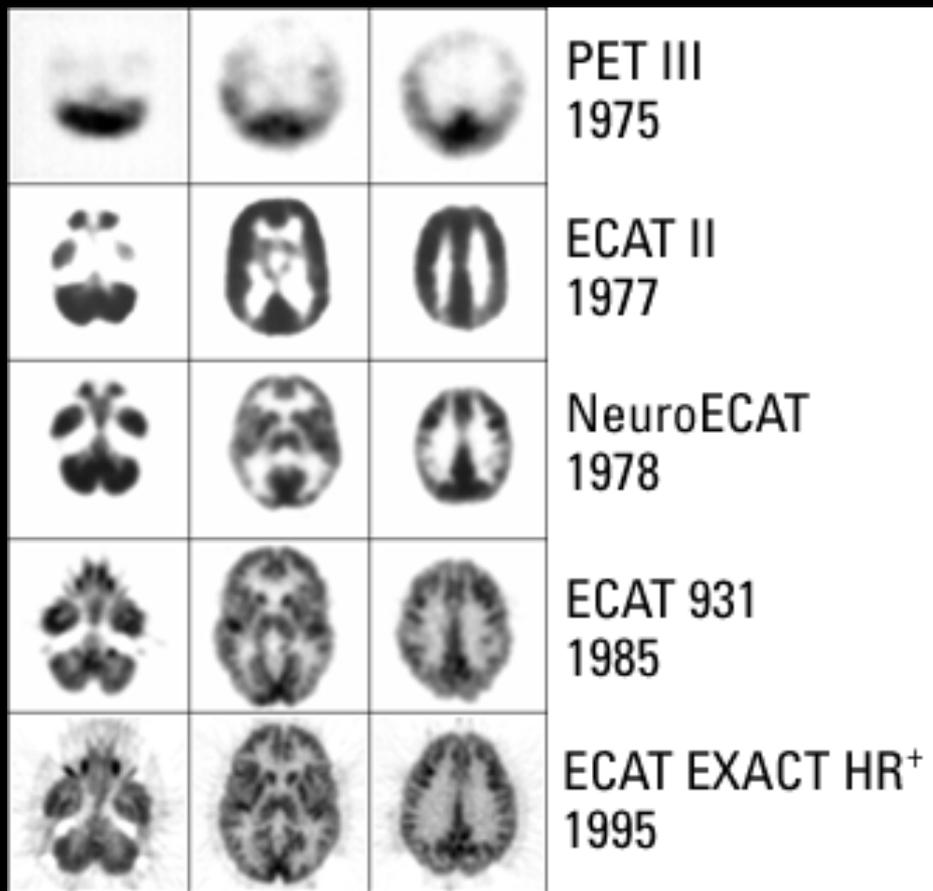


# Imagerie métabolique : une histoire récente

			PET III 1975
			ECAT II 1977
			NeuroECAT 1978
			ECAT 931 1985
			ECAT EXACT HR <sup>+</sup> 1995



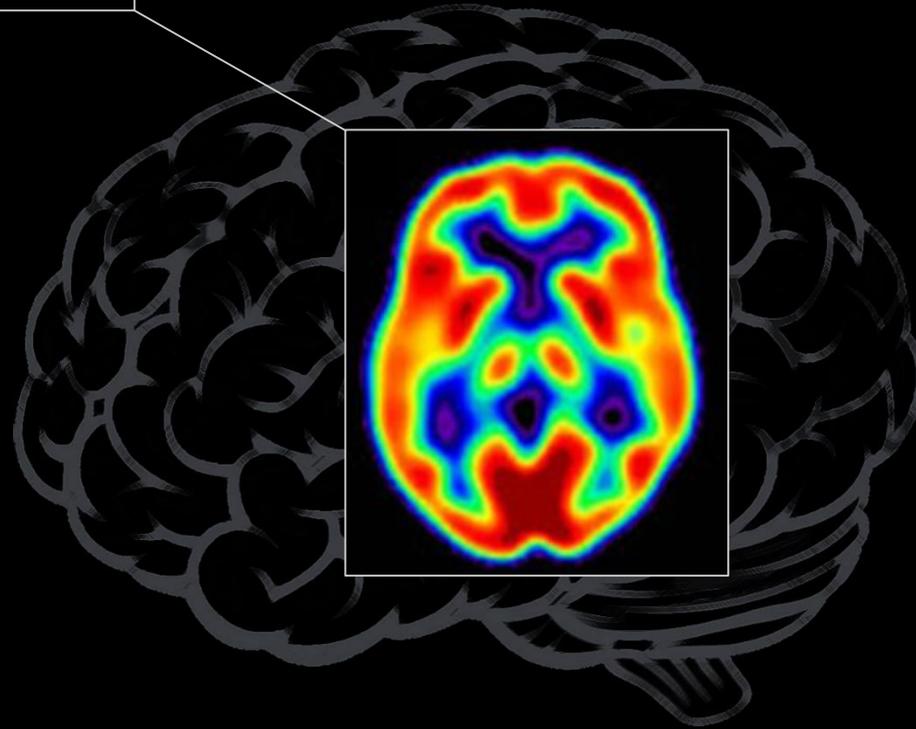
# Imagerie métabolique : une histoire récente



# Voies métaboliques

**Métabolisme glucidique**

*[<sup>18</sup>F]-FDG (fluoro-déoxy-glucose)*



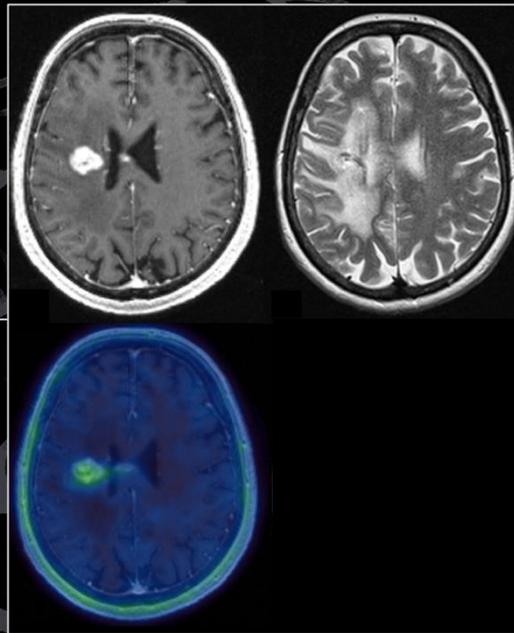
# Voies métaboliques

## Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (*fluoro-déoxy-glucose*)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (*fluoro-thymidine*)



# Voies métaboliques

## Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (*fluoro-déoxy-glucose*)

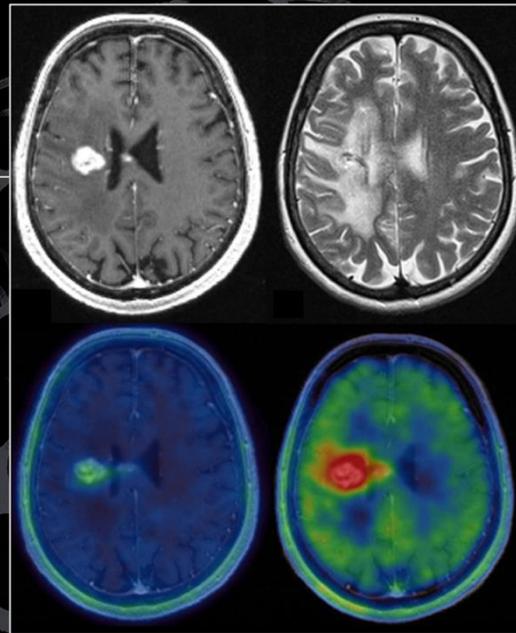
## Synthèse protéique

$[^{18}\text{F}]$ -FET (*fluoro-éthyl-tyrosine*)

$[^{11}\text{C}]$ -MET (*méthionine*)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (*fluoro-thymidine*)



# Voies métaboliques

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$[^{18}\text{F}]$ -FDG (*fluoro-déoxy-glucose*)

## Synthèse protéique

$[^{18}\text{F}]$ -FET (*fluoro-éthyl-tyrosine*)

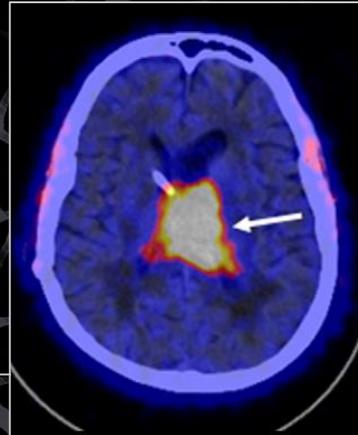
$[^{11}\text{C}]$ -MET (*méthionine*)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (*fluoro-thymidine*)

## Synthèse membranaire

$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline



# Voies métaboliques

## Hypoxie cellulaire

$[^{18}\text{F}]$ -MISO (fluoro-misonidazole)

### Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (fluoro-déoxy-glucose)

### Synthèse protéique

$[^{18}\text{F}]$ -FET (fluoro-éthyl-tyrosine)

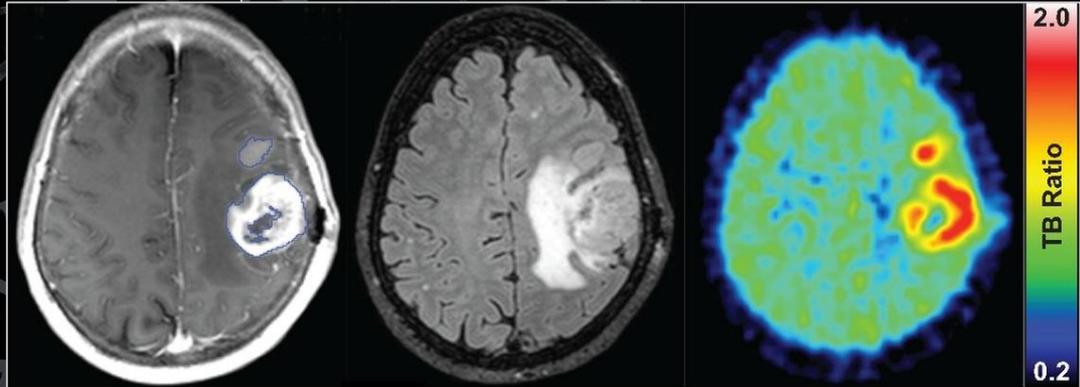
$[^{11}\text{C}]$ -MET (méthionine)

### Synthèse ADN

$[^{18}\text{F}]$ -FLT (fluoro-thymidine)

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$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline



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$[^{11}\text{C}]$ -MET (*méthionine*)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (*fluoro-thymidine*)

## Synthèse membranaire

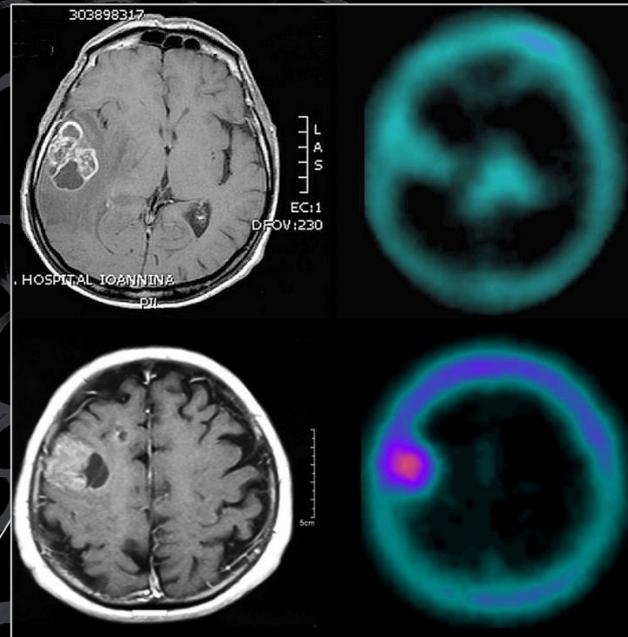
$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline

## Lésion de la barrière hémato-encéphalique

$^{201}\text{Tl}$

$[^{99\text{m}}\text{Tc}]$ -sestamibi / tetrofosmine

Chélates de gadolinium



# Voies métaboliques

## Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (*fluoro-déoxy-glucose*)

## Synthèse protéique

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$[^{11}\text{C}]$ -MET (*méthionine*)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (*fluoro-thymidine*)

## Synthèse membranaire

$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline

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$^{201}\text{Tl}$

$[^{99\text{m}}\text{Tc}]$ -sestamibi

Chélates de gadolinium

## Hypoxie cellulaire

$[^{18}\text{F}]$ -MISO (*fluoro-misonidazole*)

## Perfusion

Traceurs lipophiles :  $[^{99\text{m}}\text{Tc}]$ -ECD  
 $[^{99\text{m}}\text{Tc}]$ -HMPAO

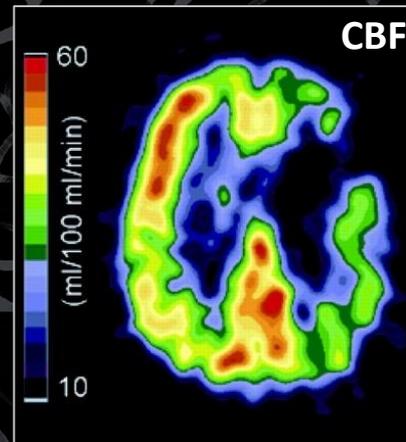
Traceurs diffusibles :  $[^{15}\text{O}]$ -H<sub>2</sub>O

$[^{15}\text{O}]$ -O<sub>2</sub>

$[^{11}\text{C}]$ -CO

$[^{11}\text{C}]$ -CO<sub>2</sub>

$[^{13}\text{N}]$ -NH<sub>3</sub>



# Voies métaboliques

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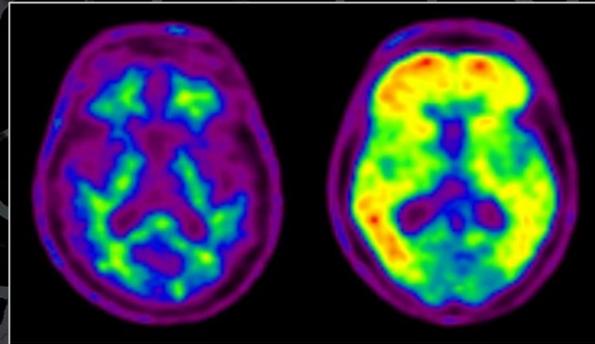
Traceurs diffusibles :  $[^{15}\text{O}]$ -H<sub>2</sub>O

$[^{15}\text{O}]$ -O<sub>2</sub>

$[^{11}\text{C}]$ -CO

$[^{11}\text{C}]$ -CO<sub>2</sub>

$[^{13}\text{N}]$ -NH<sub>3</sub>



## Plaque amyloïde

$[^{11}\text{C}]$ -PIB (*Pittsburgh compound B*)

$[^{18}\text{F}]$ -florbetapir...

# Voies métaboliques

## Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (fluoro-déoxy-glucose)

## Synthèse protéique

$[^{18}\text{F}]$ -FET (fluoro-éthyl-tyrosine)

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## Synthèse ADN

$[^{18}\text{F}]$ -FLT (fluoro-thymidine)

## Synthèse membranaire

$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline

## Lésion de la barrière hémato-encéphalique

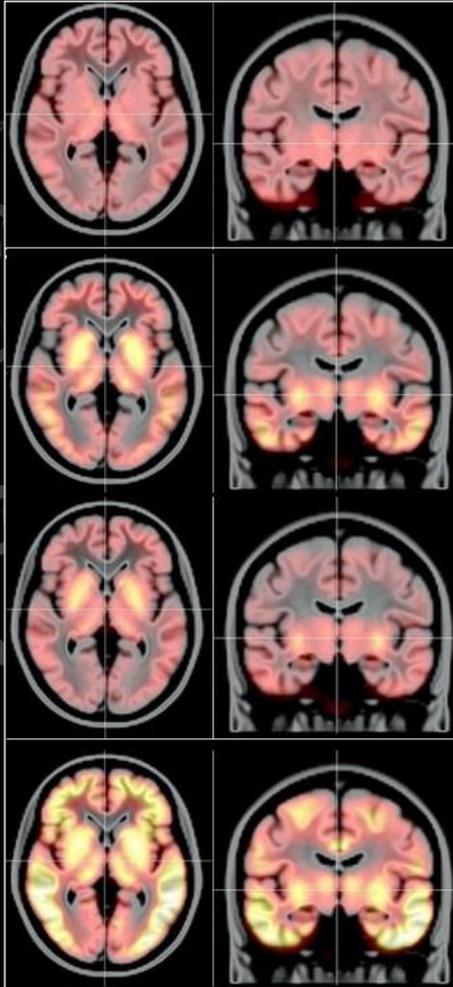
$^{201}\text{Tl}$

$[^{99\text{m}}\text{Tc}]$ -sestamibi

Chélates de gadolinium

## Hypoxie cellulaire

$[^{18}\text{F}]$ -MISO (fluoro-misonidazole)



## Perfusion

Traceurs lipophiles :  $[^{99\text{m}}\text{Tc}]$ -ECD  
 $[^{99\text{m}}\text{Tc}]$ -HMPAO

Traceurs diffusibles :  $[^{15}\text{O}]$ -H<sub>2</sub>O  
 $[^{15}\text{O}]$ -O<sub>2</sub>  
 $[^{11}\text{C}]$ -CO  
 $[^{11}\text{C}]$ -CO<sub>2</sub>  
 $[^{13}\text{N}]$ -NH<sub>3</sub>

## Plaque amyloïde

$[^{11}\text{C}]$ -PIB (Pittsburgh compound B)

$[^{18}\text{F}]$ -florbetapir...

## Tauopathie

$[^{18}\text{F}]$ -AV145

# Voies métaboliques

## Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (*fluoro-déoxy-glucose*)

## Synthèse protéique

$[^{18}\text{F}]$ -FET (*fluoro-éthyl-tyrosine*)

$[^{11}\text{C}]$ -MET (*méthionine*)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (*fluoro-thymidine*)

## Synthèse membranaire

$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline

## Lésion de la barrière hémato-encéphalique

$^{201}\text{Tl}$

$[^{99\text{m}}\text{Tc}]$ -sestamibi

Chélates de gadolinium

## Hypoxie cellulaire

$[^{18}\text{F}]$ -MISO (*fluoro-misonidazole*)

## Perfusion

Traceurs lipophiles :  $[^{99\text{m}}\text{Tc}]$ -ECD  
 $[^{99\text{m}}\text{Tc}]$ -HMPAO

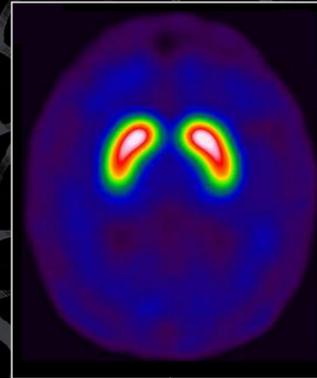
Traceurs diffusibles :  $[^{15}\text{O}]$ -H<sub>2</sub>O

$[^{15}\text{O}]$ -O<sub>2</sub>

$[^{11}\text{C}]$ -CO

$[^{11}\text{C}]$ -CO<sub>2</sub>

$[^{13}\text{N}]$ -NH<sub>3</sub>



## Plaque amyloïde

$[^{11}\text{C}]$ -PIB (*Pittsburgh compound B*)

$[^{18}\text{F}]$ -florbetapir...

## Tauopathie

$[^{18}\text{F}]$ -AV145

## Récepteurs membranaires

- Dopamine :  $[^{123}\text{I}]$ -DaTscan,  $[^{18}\text{F}]$ -Dopa,  $[^{11}\text{C}]$ -raclopride

# Voies métaboliques

## Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (fluoro-déoxy-glucose)

## Synthèse protéique

$[^{18}\text{F}]$ -FET (fluoro-éthyl-tyrosine)

$[^{11}\text{C}]$ -MET (méthionine)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (fluoro-thymidine)

## Synthèse membranaire

$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline

## Lésion de la barrière hémato-encéphalique

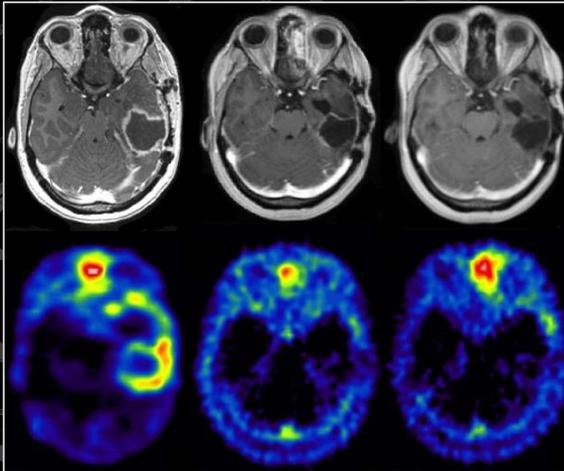
$^{201}\text{Tl}$

$[^{99\text{m}}\text{Tc}]$ -sestamibi

Chélates de gadolinium

## Hypoxie cellulaire

$[^{18}\text{F}]$ -MISO (fluoro-misonidazole)



## Perfusion

Traceurs lipophiles :  $[^{99\text{m}}\text{Tc}]$ -ECD  
 $[^{99\text{m}}\text{Tc}]$ -HMPAO

Traceurs diffusibles :  $[^{15}\text{O}]$ -H<sub>2</sub>O  
 $[^{15}\text{O}]$ -O<sub>2</sub>  
 $[^{11}\text{C}]$ -CO  
 $[^{11}\text{C}]$ -CO<sub>2</sub>  
 $[^{13}\text{N}]$ -NH<sub>3</sub>

## Plaque amyloïde

$[^{11}\text{C}]$ -PIB (Pittsburgh compound B)

$[^{18}\text{F}]$ -florbetapir...

## Tauopathie

$[^{18}\text{F}]$ -AV145

## Récepteurs membranaires

- Dopamine :  $[^{123}\text{I}]$ -DaTscan,  $[^{18}\text{F}]$ -Dopa,  $[^{11}\text{C}]$ -raclopride
- Somatostatine :  $[^{68}\text{Ga}]$ -DOTA peptides
- Benzodiazépines :  $[^{11}\text{C}]$ -flumazenil,  $[^{123}\text{I}]$ -iomazenil

# Voies métaboliques

## Métabolisme glucidique

$[^{18}\text{F}]$ -FDG (fluoro-déoxy-glucose)

## Synthèse protéique

$[^{18}\text{F}]$ -FET (fluoro-éthyl-tyrosine)

$[^{11}\text{C}]$ -MET (méthionine)

## Synthèse ADN

$[^{18}\text{F}]$ -FLT (fluoro-thymidine)

## Synthèse membranaire

$[^{18}\text{F}]$ - ou  $[^{11}\text{C}]$ -choline

## Lésion de la barrière hémato-encéphalique

$^{201}\text{Tl}$

$[^{99\text{m}}\text{Tc}]$ -sestamibi

Chélates de gadolinium

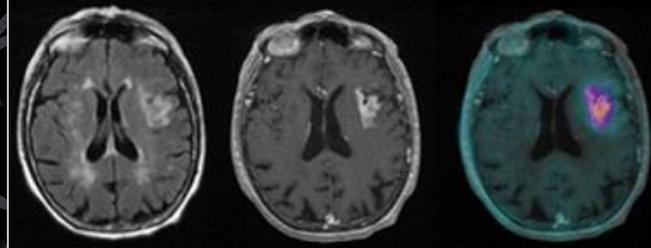
## Hypoxie cellulaire

$[^{18}\text{F}]$ -MISO (fluoro-misonidazole)

## Neuro-inflammation

## Activation microgliale

$[^{18}\text{F}]$ -DPA714



## Perfusion

Traceurs lipophiles :  $[^{99\text{m}}\text{Tc}]$ -ECD  
 $[^{99\text{m}}\text{Tc}]$ -HMPAO

Traceurs diffusibles :  $[^{15}\text{O}]$ -H<sub>2</sub>O

$[^{15}\text{O}]$ -O<sub>2</sub>

$[^{11}\text{C}]$ -CO

$[^{11}\text{C}]$ -CO<sub>2</sub>

$[^{13}\text{N}]$ -NH<sub>3</sub>

## Plaque amyloïde

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$[^{18}\text{F}]$ -florbetapir...

## Tauopathie

$[^{18}\text{F}]$ -AV145

## Récepteurs membranaires

- Dopamine :  $[^{123}\text{I}]$ -DaTscan,  $[^{18}\text{F}]$ -Dopa,  $[^{11}\text{C}]$ -raclopride

- Somatostatine :  $[^{68}\text{Ga}]$ -DOTA peptides

- Benzodiazépines :  $[^{11}\text{C}]$ -flumazenil,  $[^{123}\text{I}]$ -iomazenil

# Métabolisme glucidique : $^{18}\text{F}$ FDG

## Cerveau :

- 2% du poids du corps
- 15% du débit sanguin :  $\text{CBF} \sim 55 \text{ mL}/100\text{g}/\text{min}$
- 20% de la consommation d' $\text{O}_2$  :  $\text{CMR}_{\text{O}_2} \sim 3.5 \text{ mL}/100\text{g}/\text{min}$
- 20-25% de la consommation de glucose :  $\text{CMR}_{\text{glu}} \sim 6 \text{ mg}/100\text{g}/\text{min}$

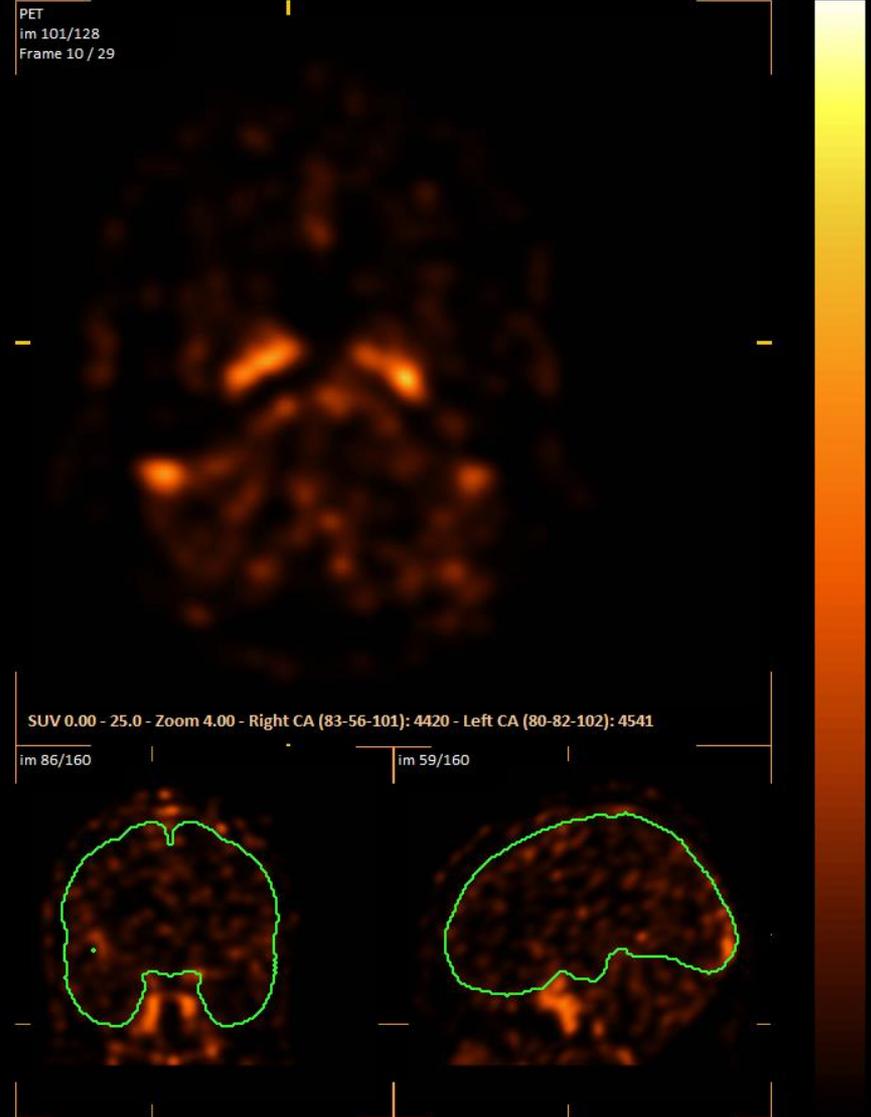
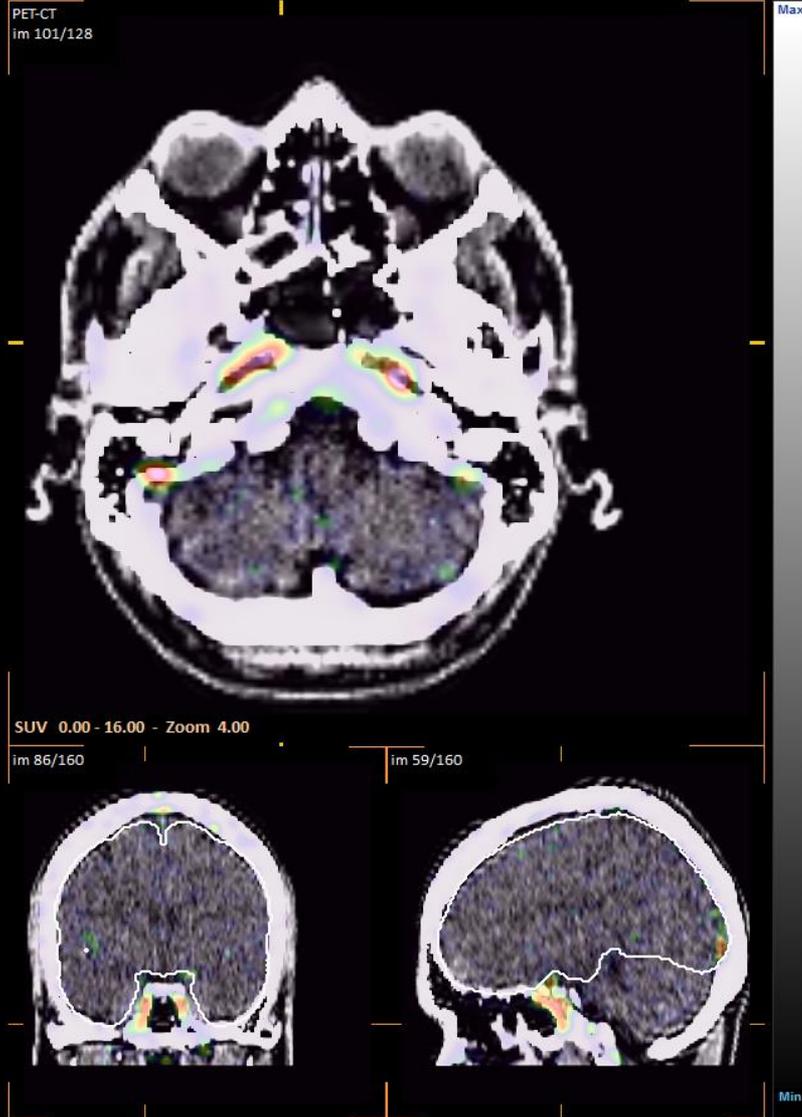
A l'équilibre,  $[\text{Glu}]_{\text{tissue}} \sim 20\% [\text{Glu}]_{\text{plasma}}$

Forte corrélation  $\text{CMR}_{\text{glu}} / \text{CBF}$



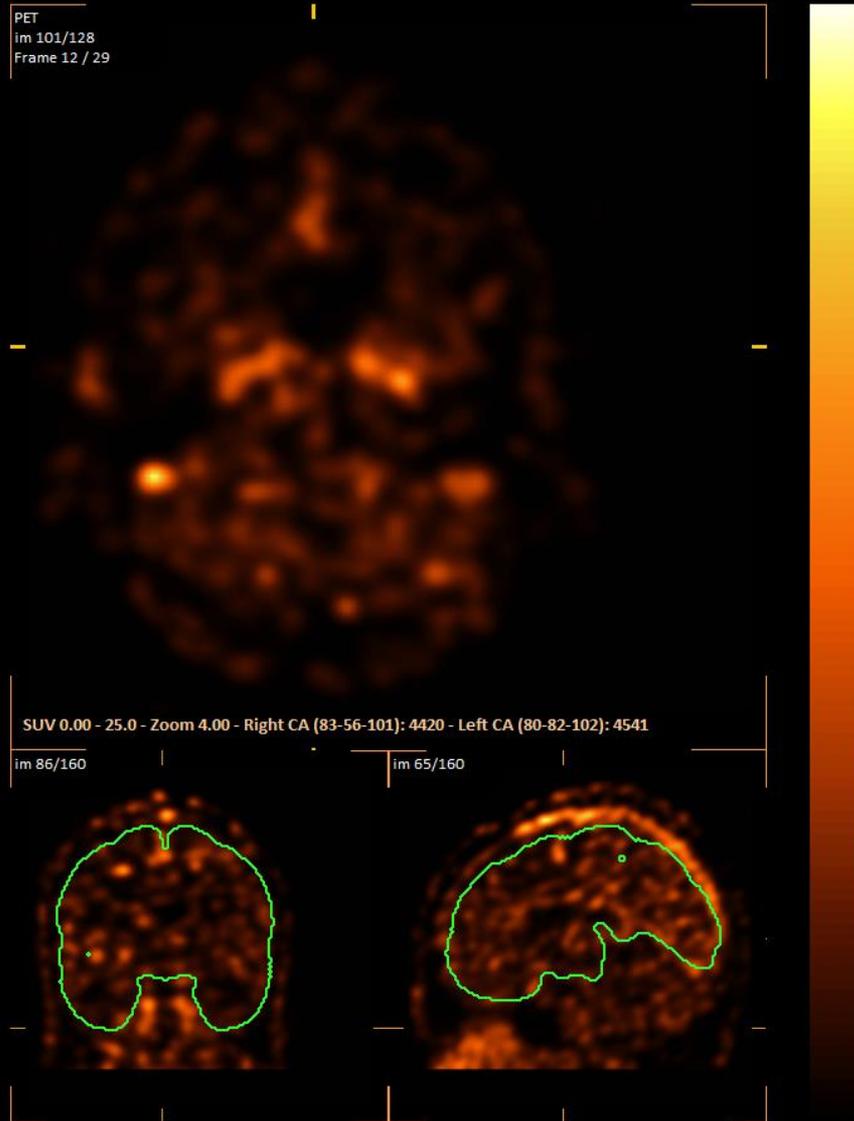
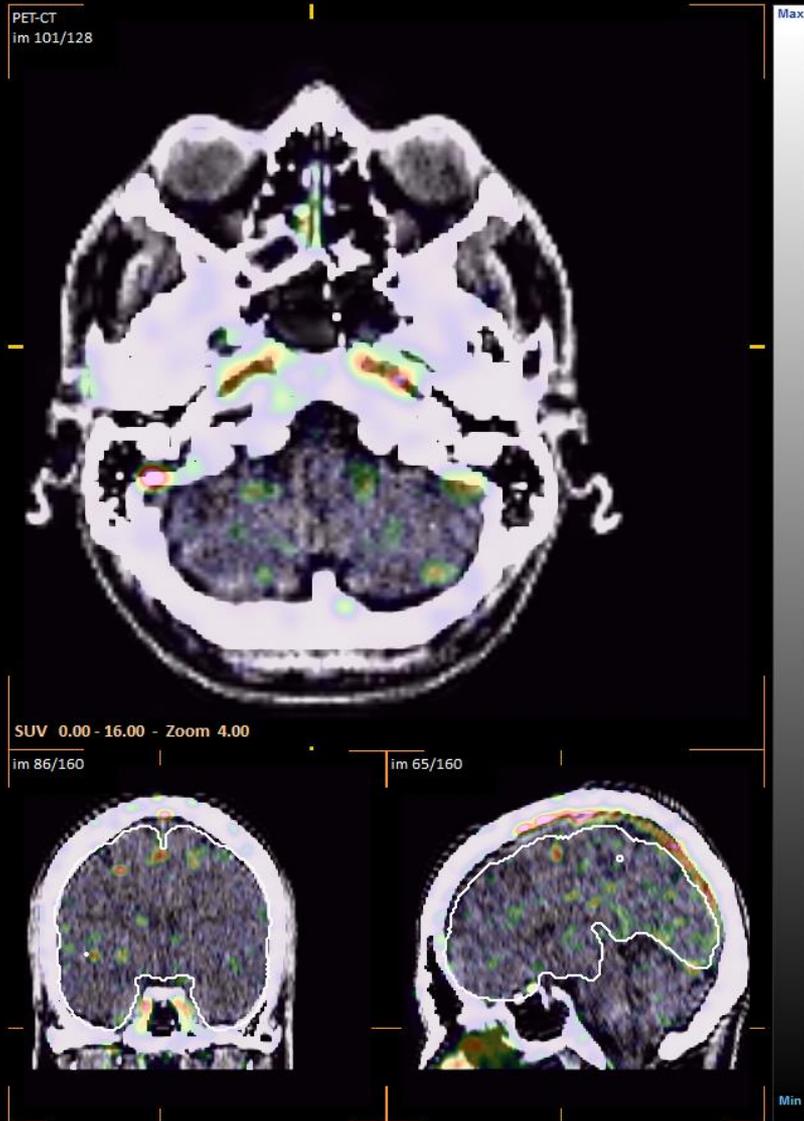
# Métabolisme glucidique : $^{18}\text{F}$ FDG

*Acquisition dynamique : 60 sec*



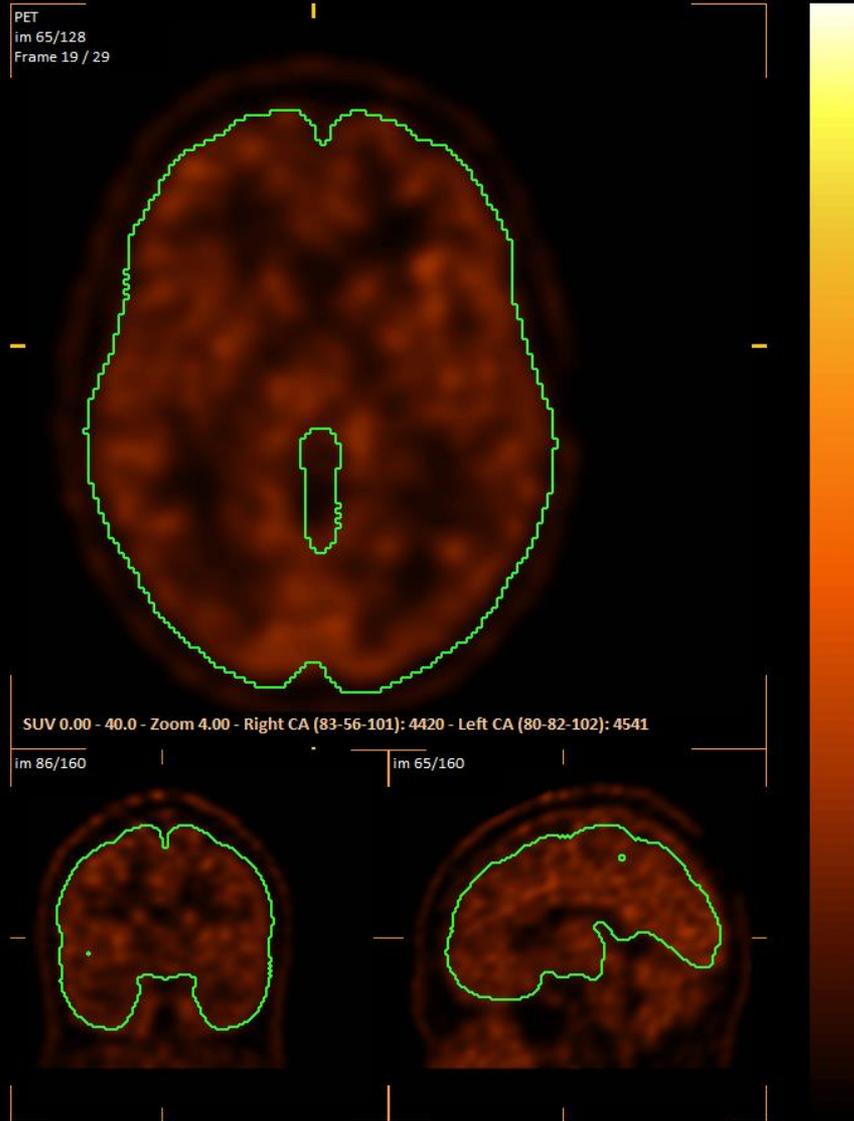
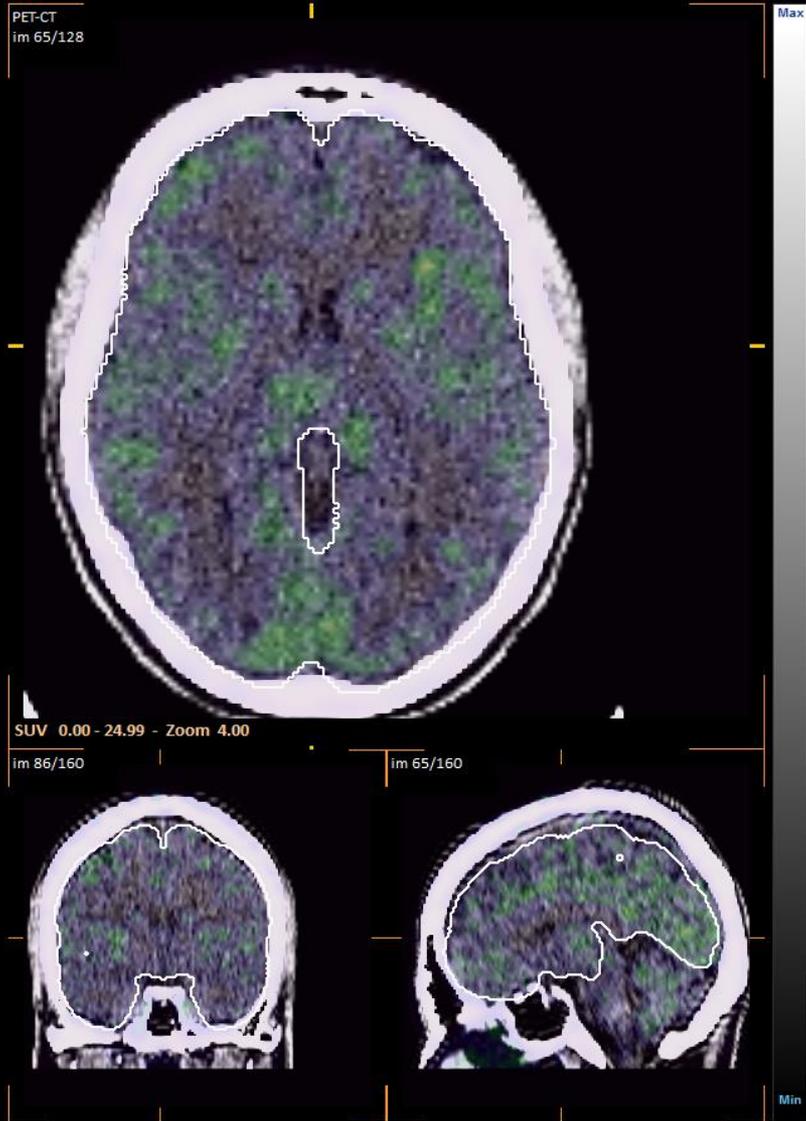
# Métabolisme glucidique : $^{18}\text{F}$ FDG

*Acquisition dynamique : 120 sec*



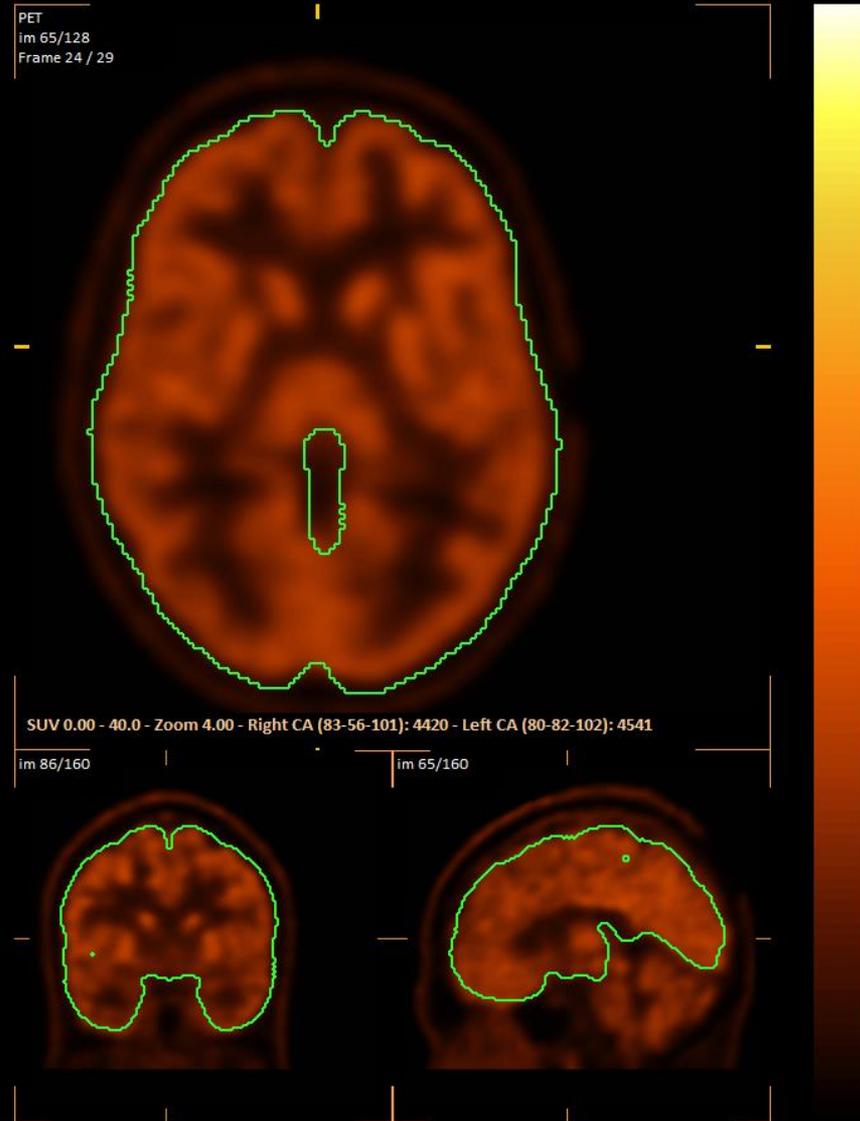
# Métabolisme glucidique : $^{18}\text{F}$ FDG

*Acquisition dynamique : 5 min*



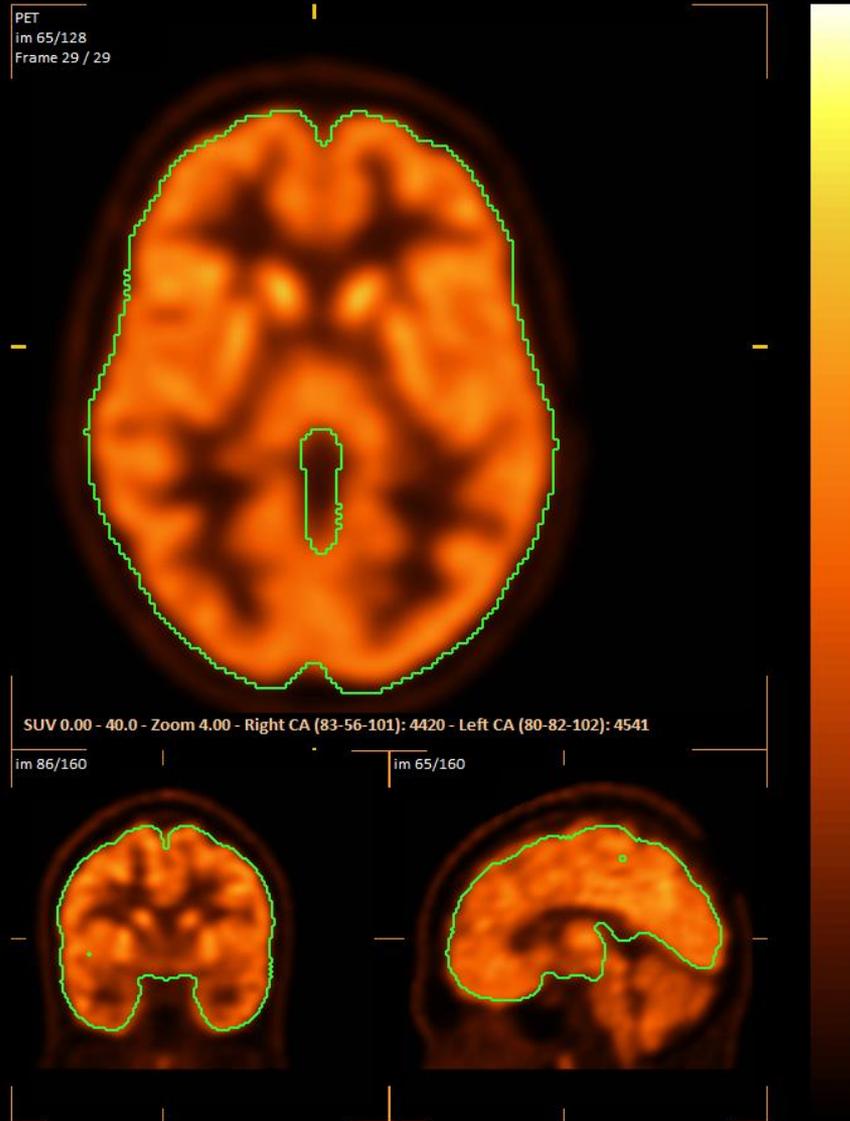
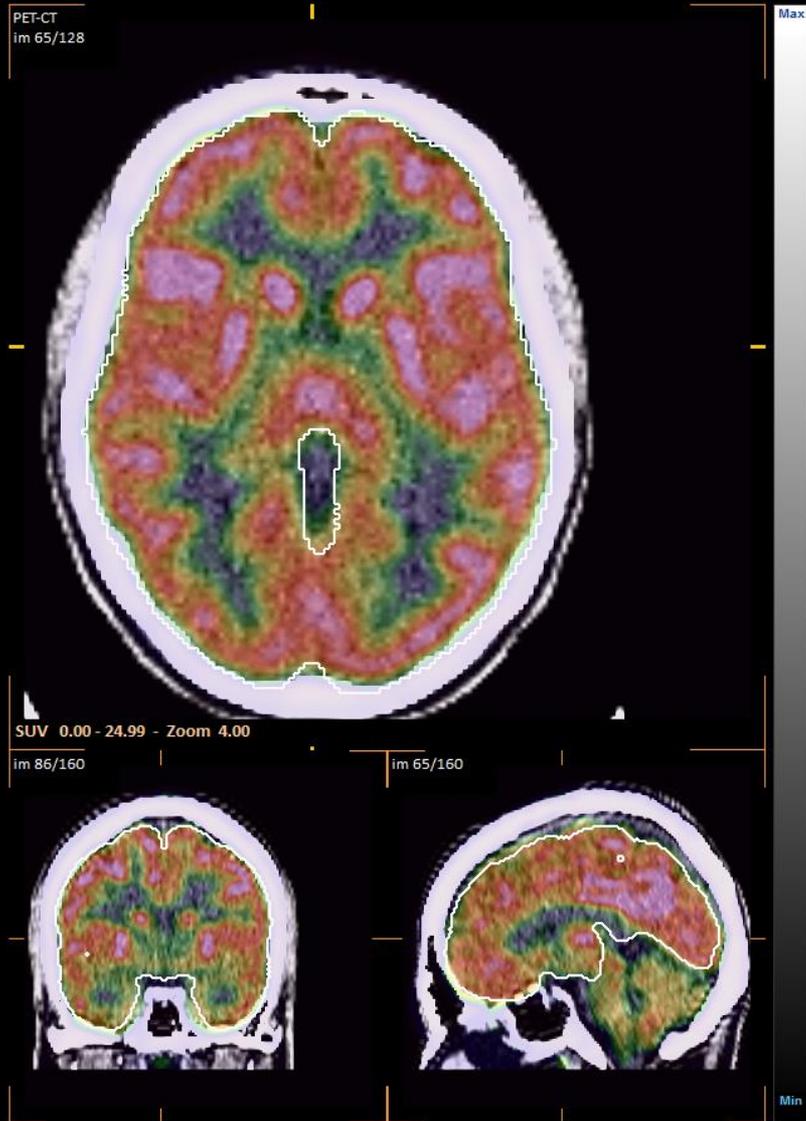
# Métabolisme glucidique : $^{18}\text{F}$ FDG

*Acquisition dynamique : 12 min*

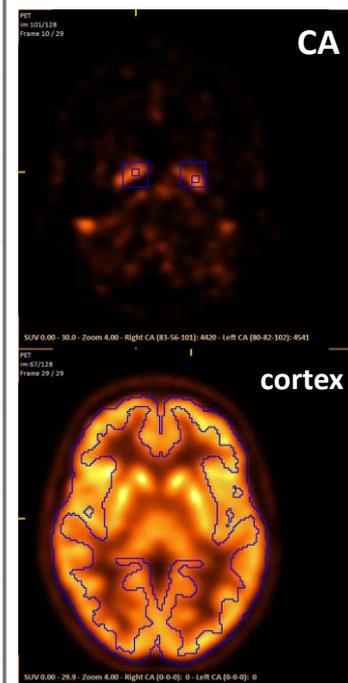
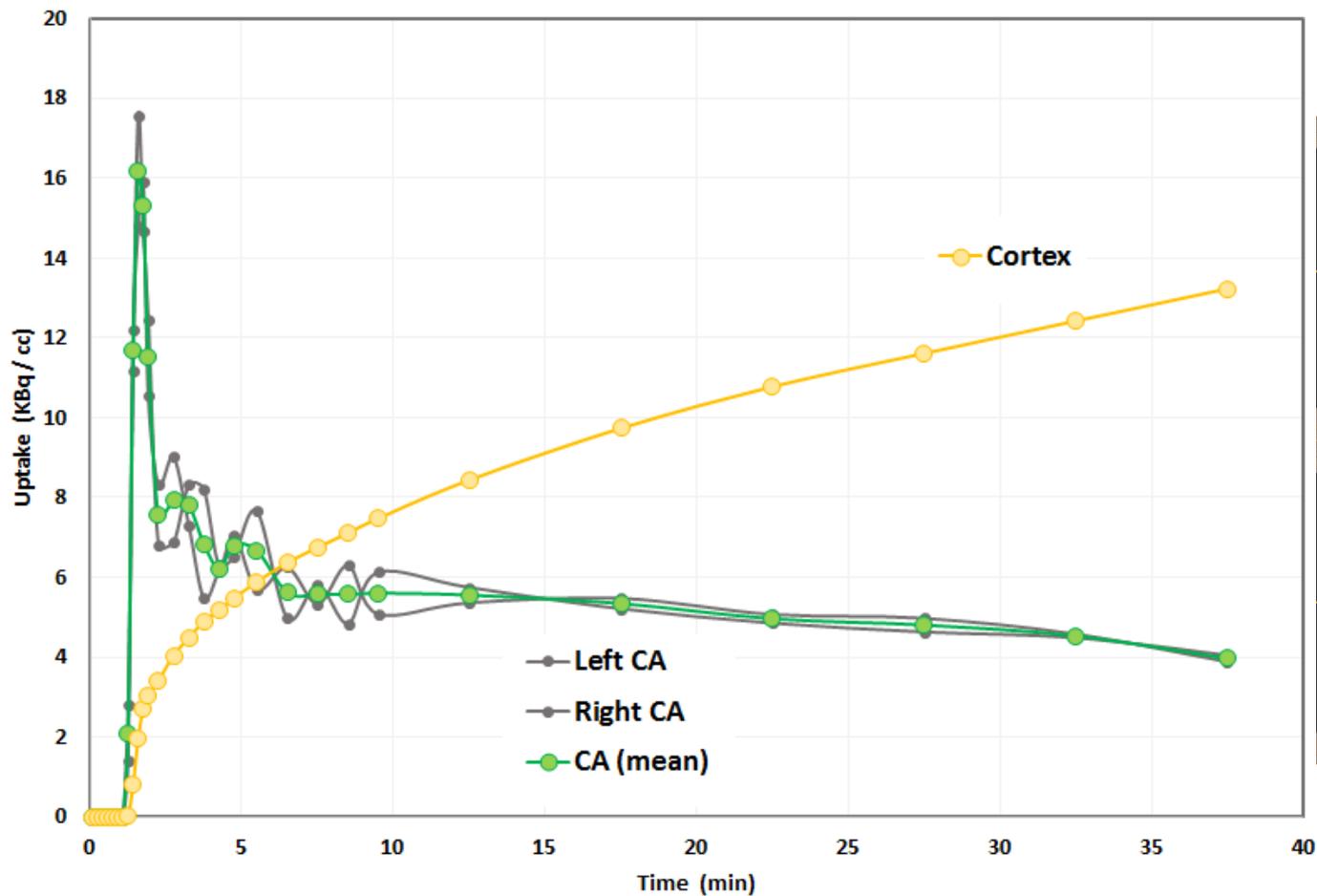


# Métabolisme glucidique : $^{18}\text{F}$ FDG

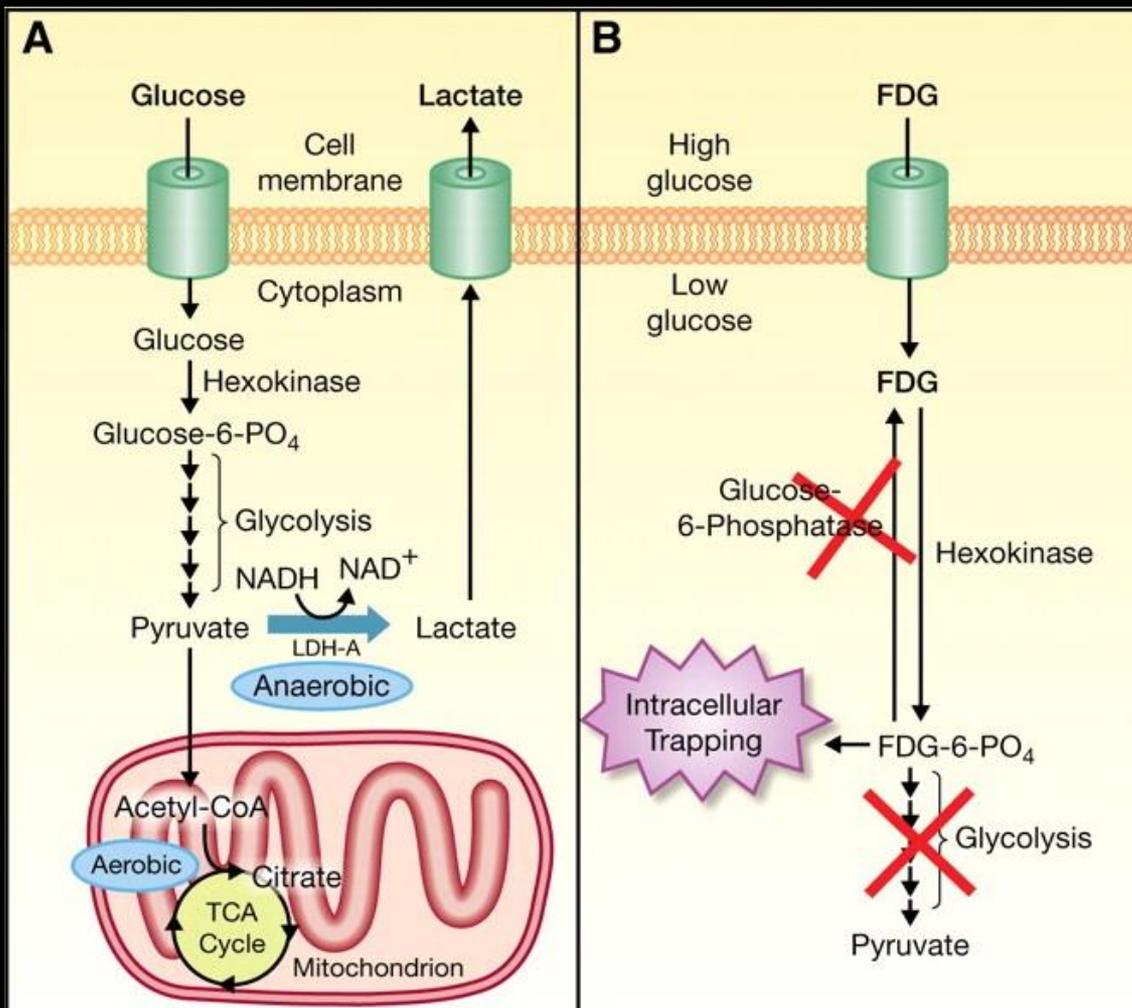
*Acquisition dynamique : 35 min*



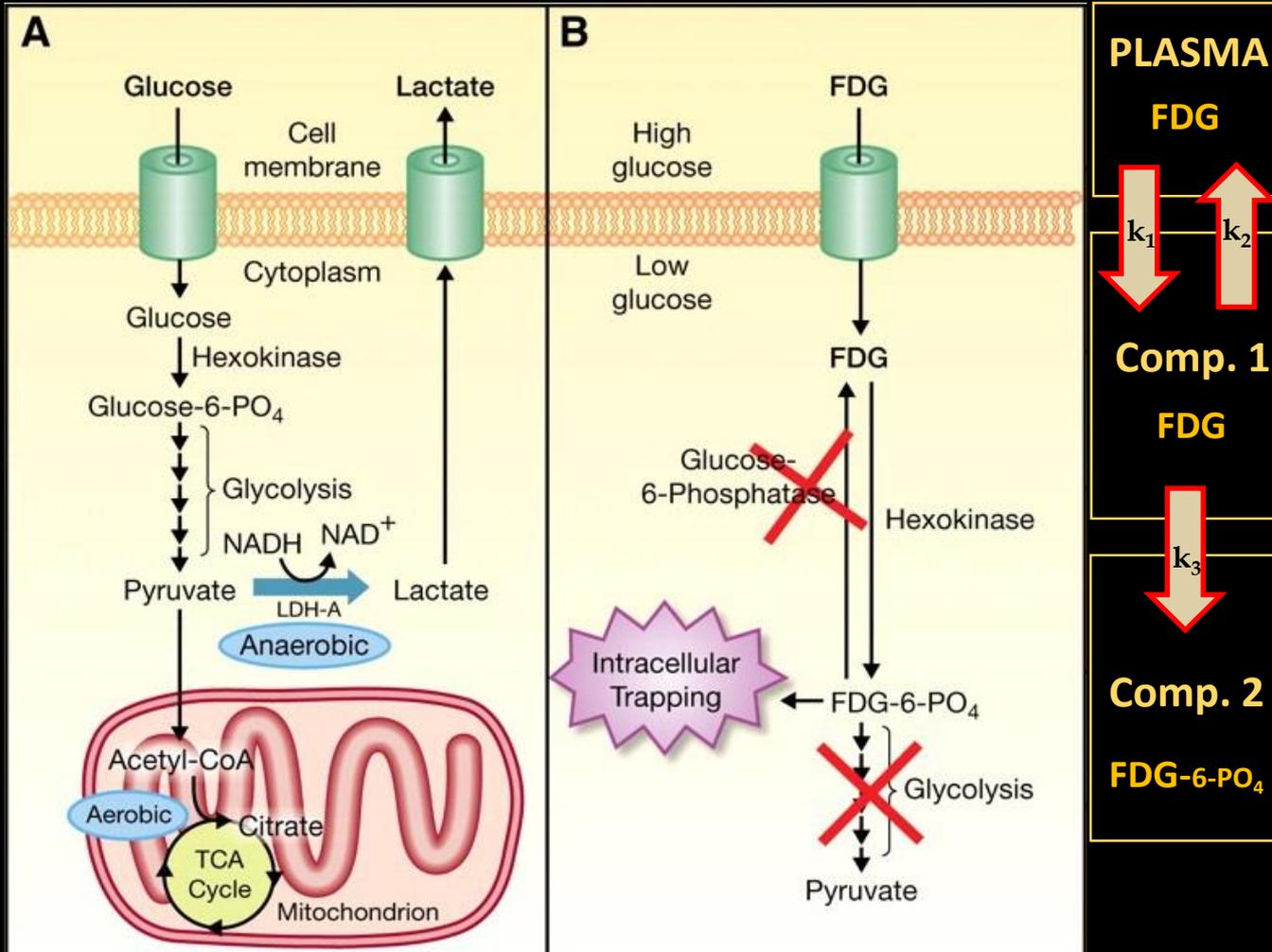
# Métabolisme glucidique : $^{18}\text{F}$ FDG



# Métabolisme glucidique : $^{18}\text{F}$ FDG



# Métabolisme glucidique : $^{18}\text{F}$ FDG

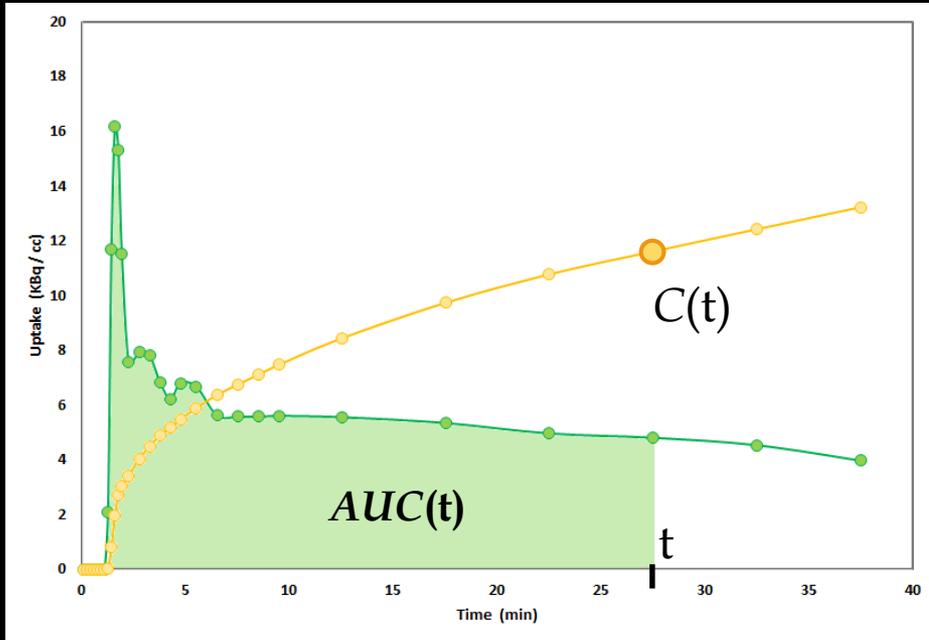


Extraction nette :

$$K_i = \frac{k_1 k_3}{k_2 + k_3}$$

$\sim 0.05 \text{ min}^{-1}$

# Métabolisme glucidique : $^{18}\text{F}$ FDG

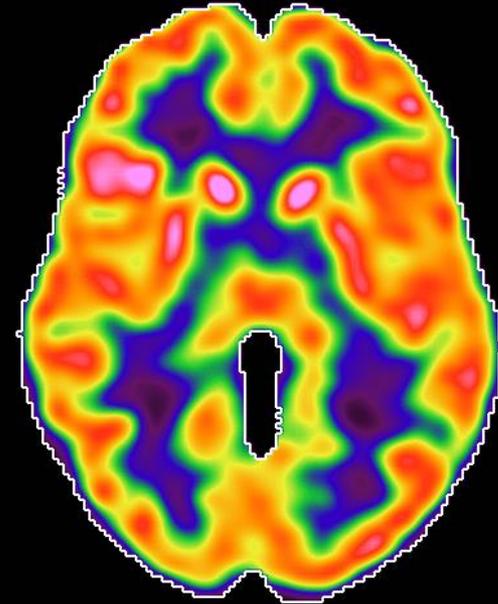


$$C(t) = K_i \times AUC(t) + \dots$$

$$\text{CMR}_{\text{glu}} = \text{glycémie} \times K_i$$

PET  
im 65/128  
Frame 9 / 29

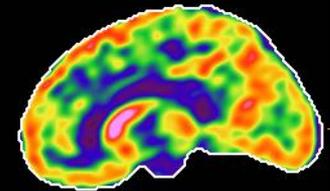
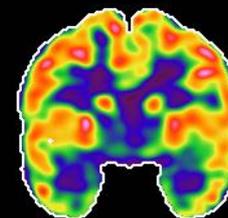
$\text{CMR}_{\text{glu}}$



SUV 0.00 - 0.6 - Zoom 4.00 - Right CA (83-56-101): 4420 - Left CA (80-82-102): 4541

im 86/160

im 75/160

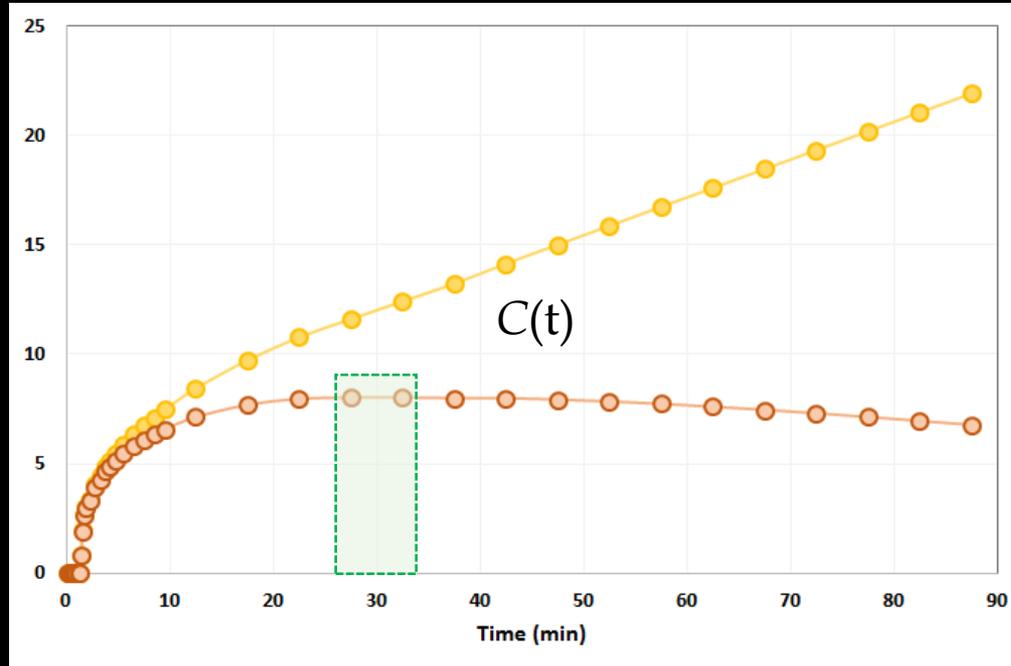


0.6

0.3

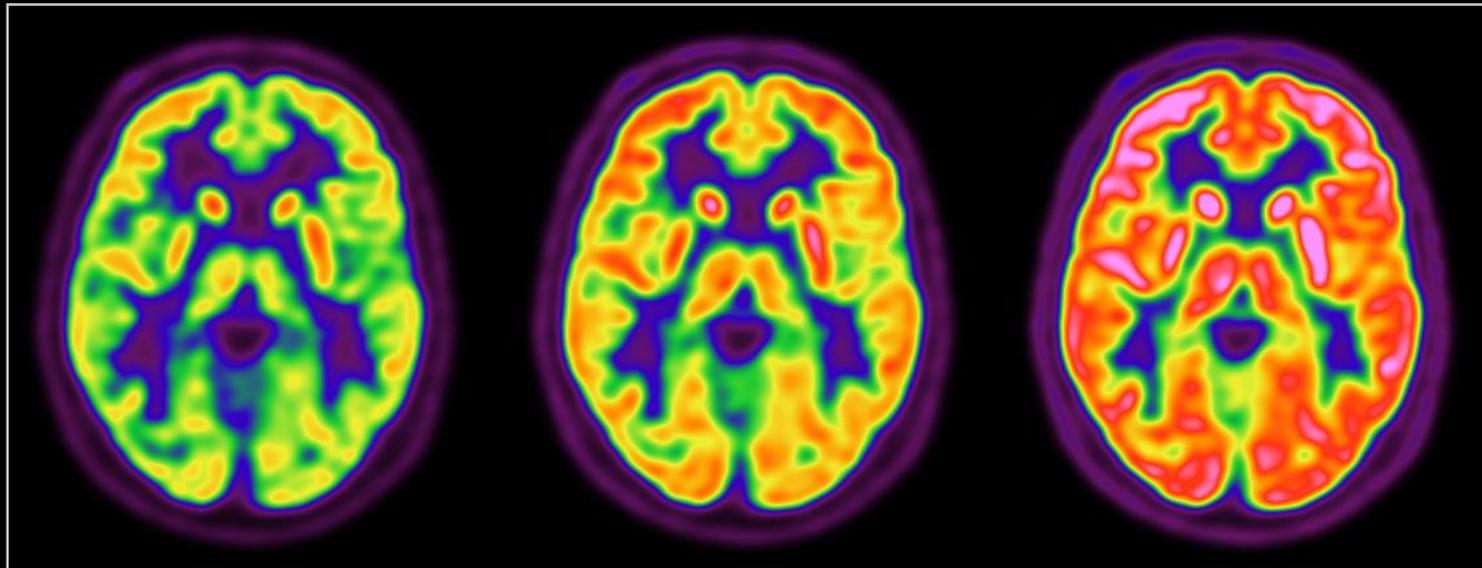
0.0

# Métabolisme glucidique : $^{18}\text{F}$ FDG

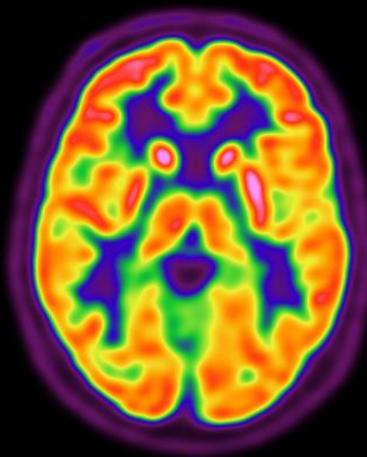
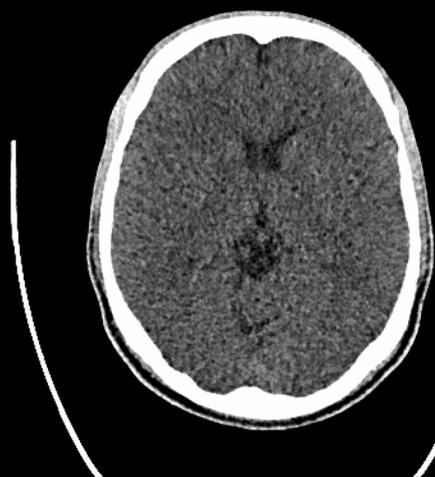


EN PRATIQUE  
Une acquisition tardive  
Vers 30 min  
Pendant 10 min

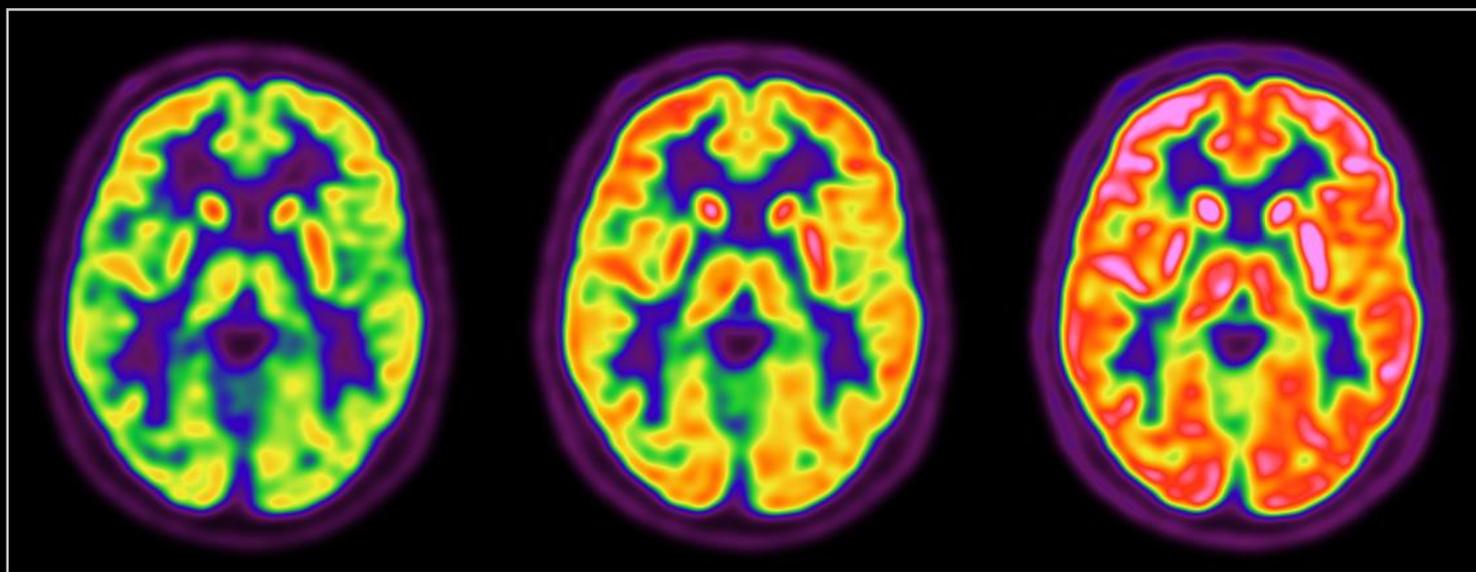
# Métabolisme glucidique : $^{18}\text{F}$ FDG



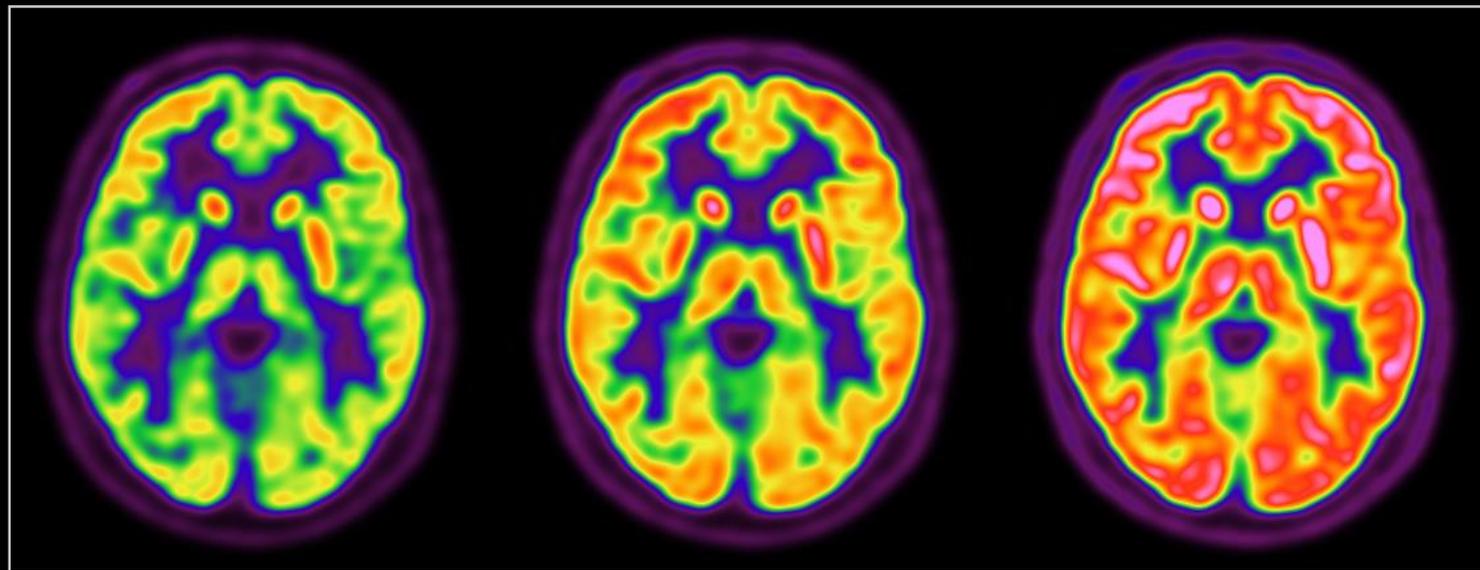
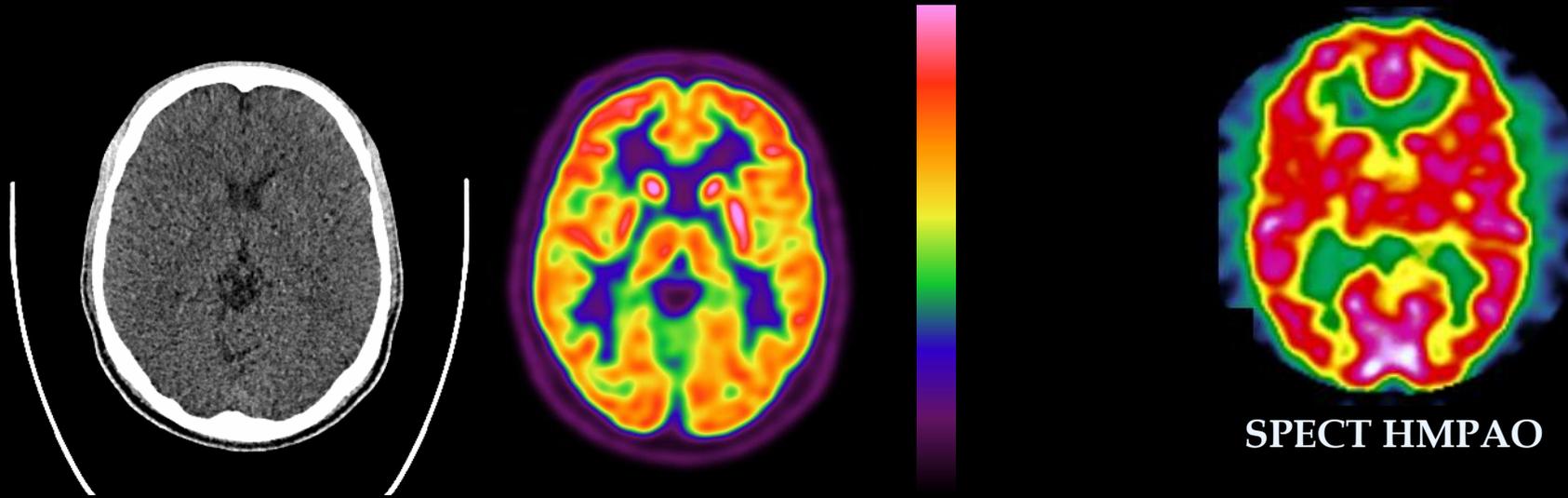
# Métabolisme glucidique : $^{18}\text{F}$ FDG



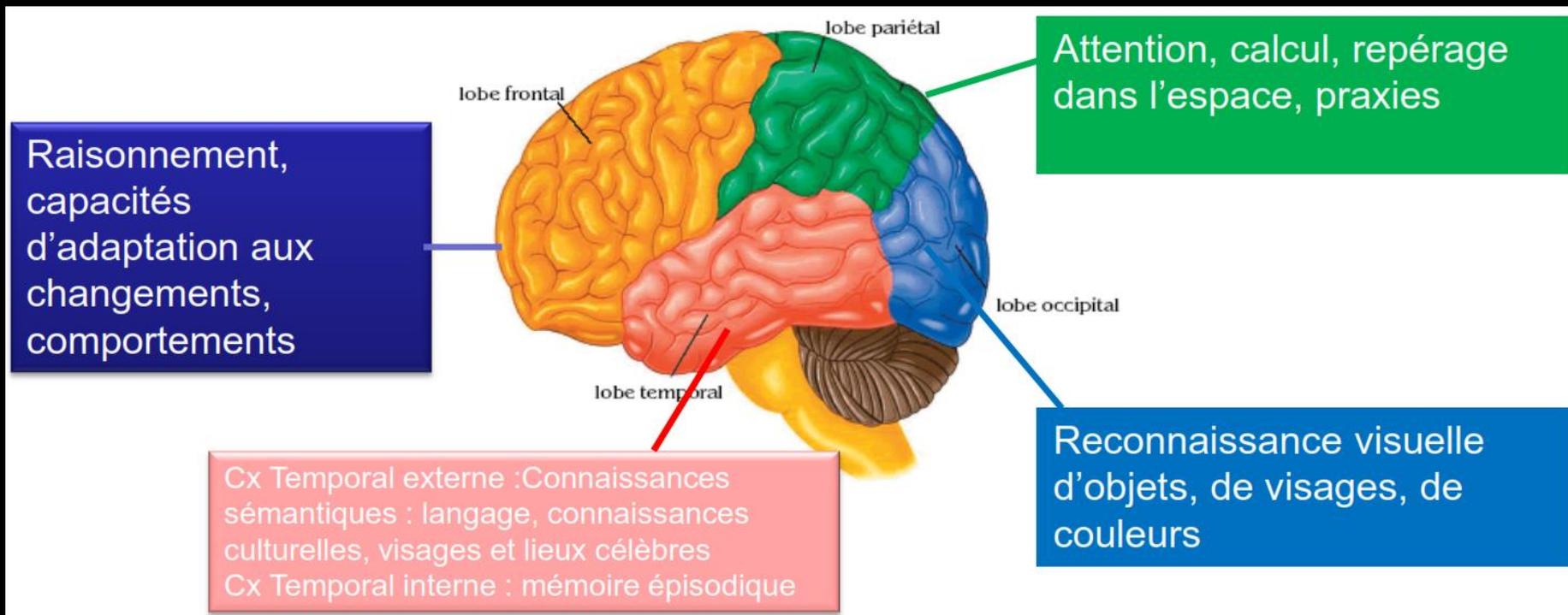
Fixation relative  
Référence : NGC



# Métabolisme glucidique : $^{18}\text{F}$ FDG



# Métabolisme glucidique : $^{18}\text{F}$ FDG



## Diagnostic positif & différentiel

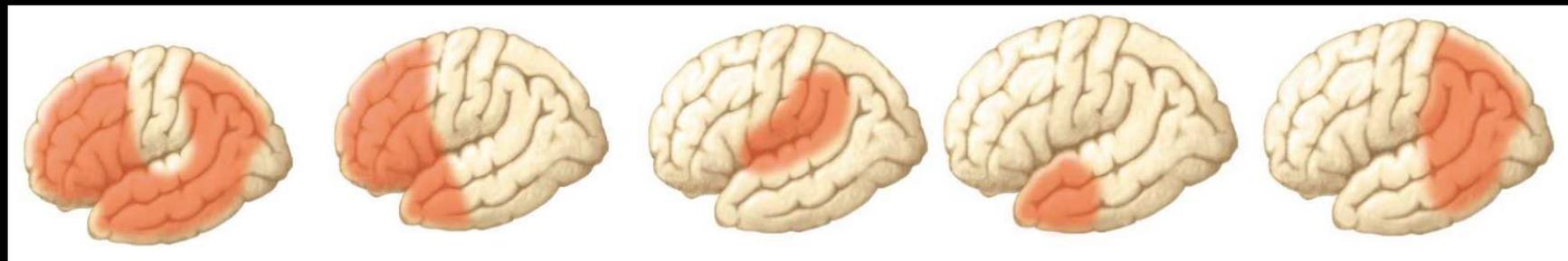
*MA/DCL*

*DFT*

*APP*

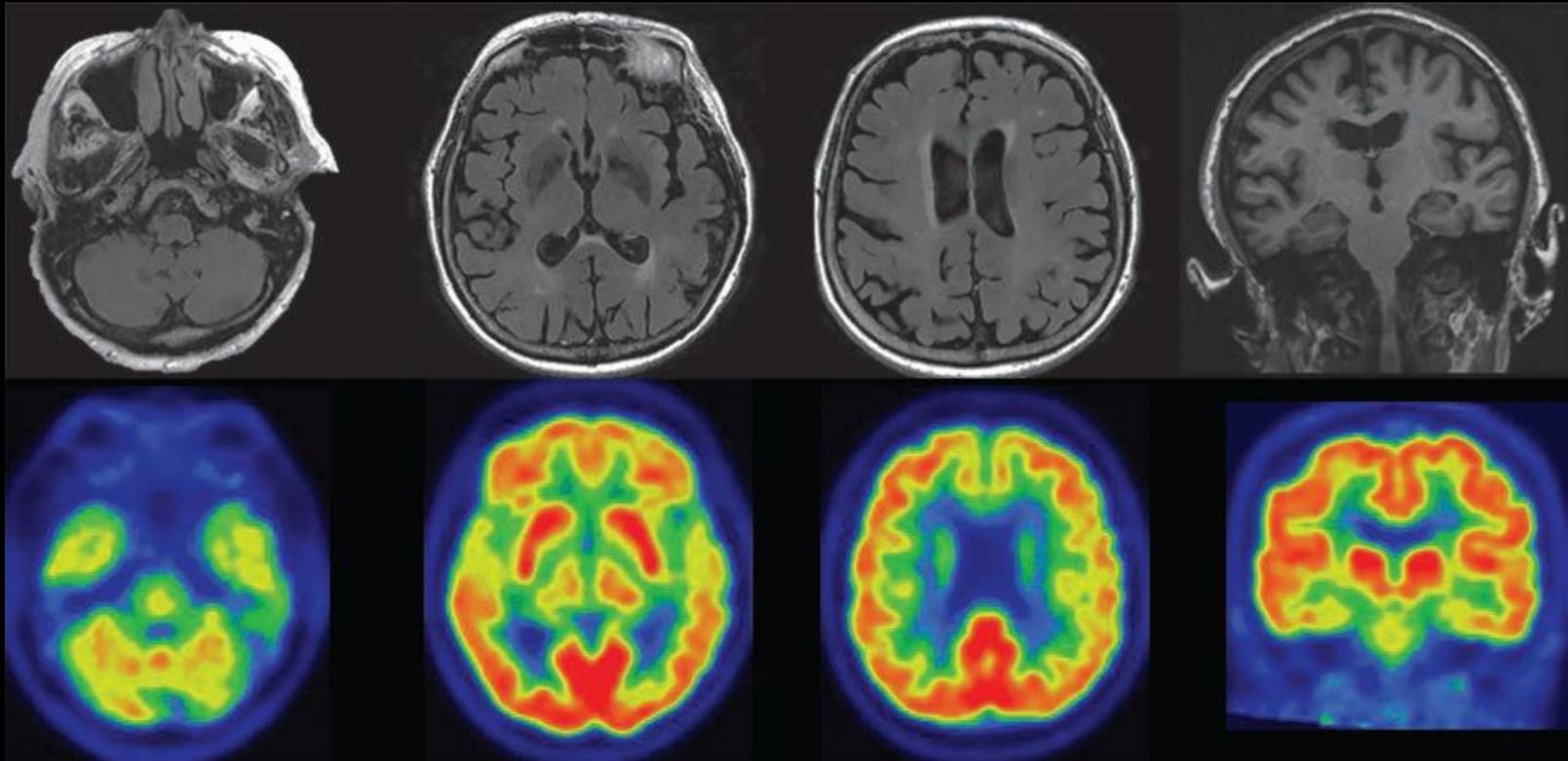
*DS*

*ACP*



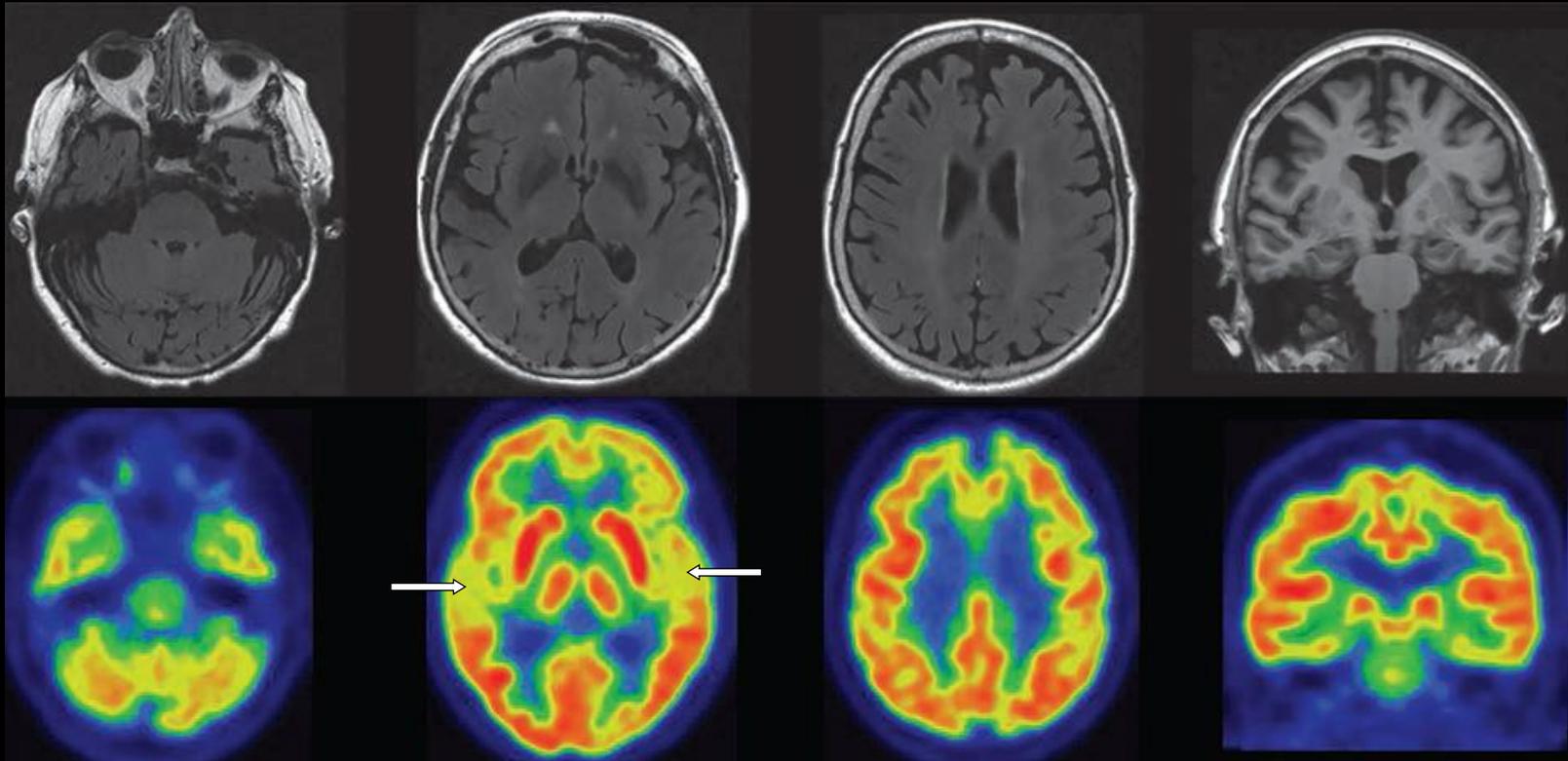
# Métabolisme glucidique : $^{18}\text{F}$ FDG

TEP FDG : *Aspect normal*



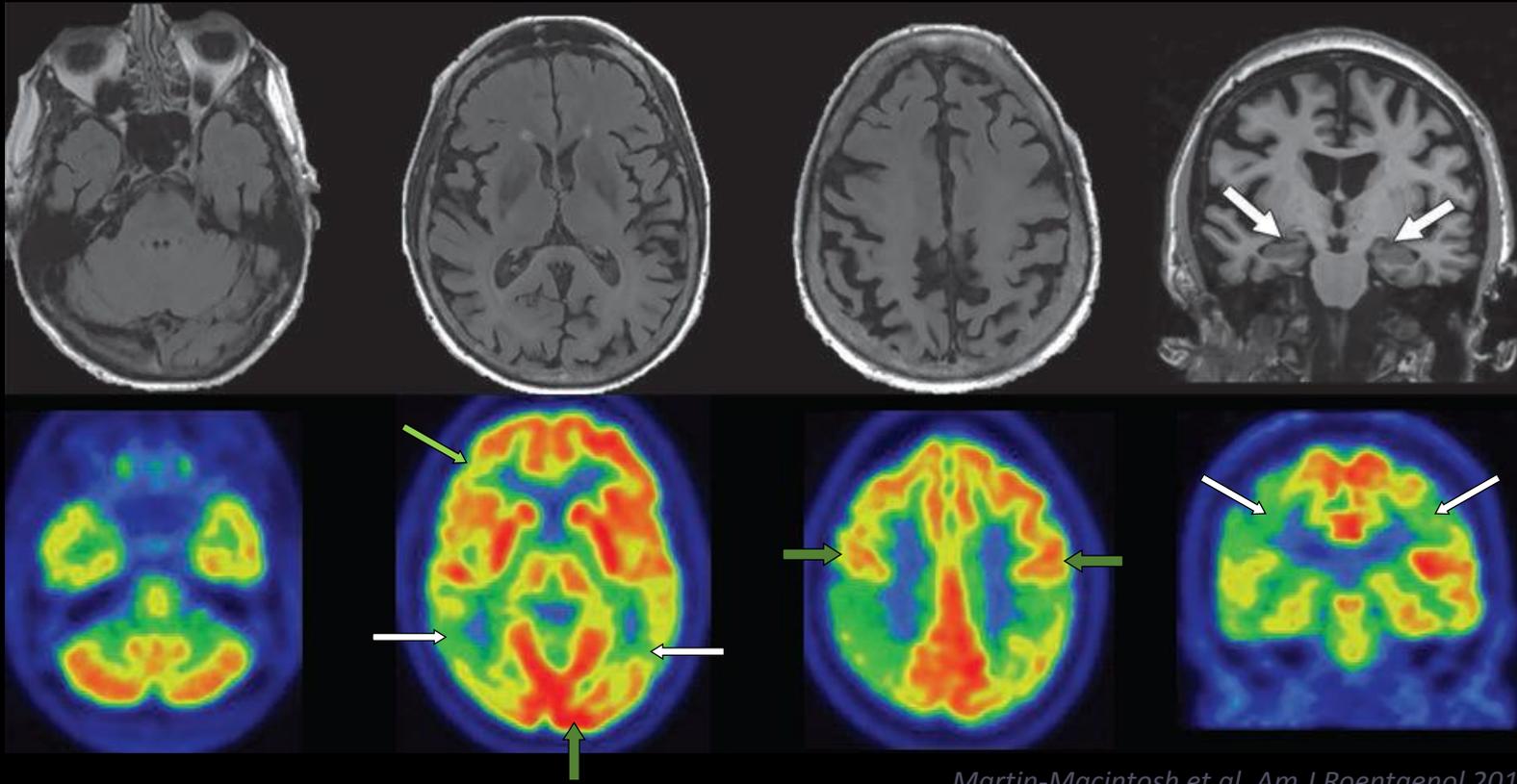
# Métabolisme glucidique : $^{18}\text{F}$ FDG

TEP FDG : *Trouble cognitif léger (MCI)*



# Métabolisme glucidique : $^{18}\text{F}$ FDG

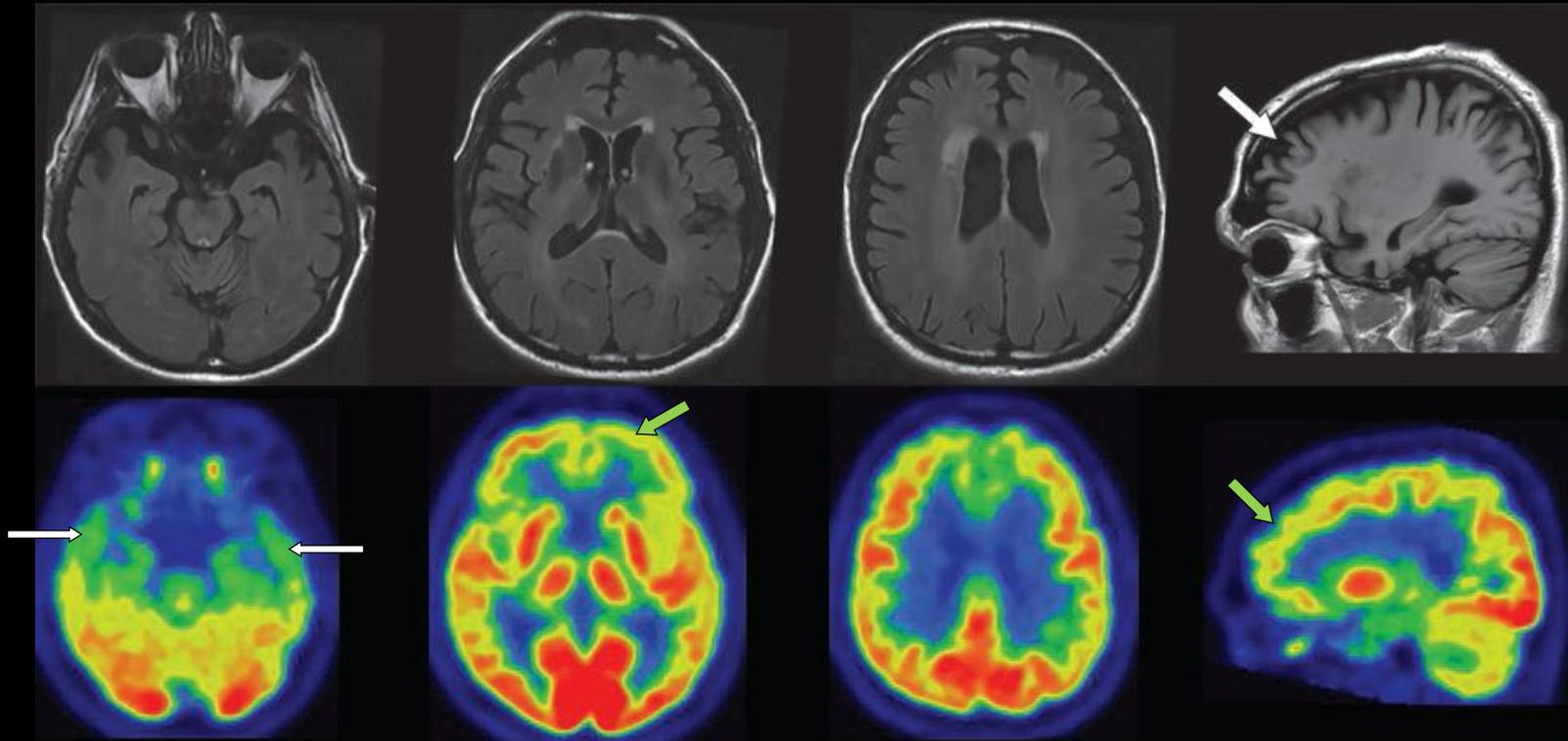
## TEP FDG : *Maladie d'Alzheimer*



*Martin-Macintosh et al. Am J Roentgenol 2016*

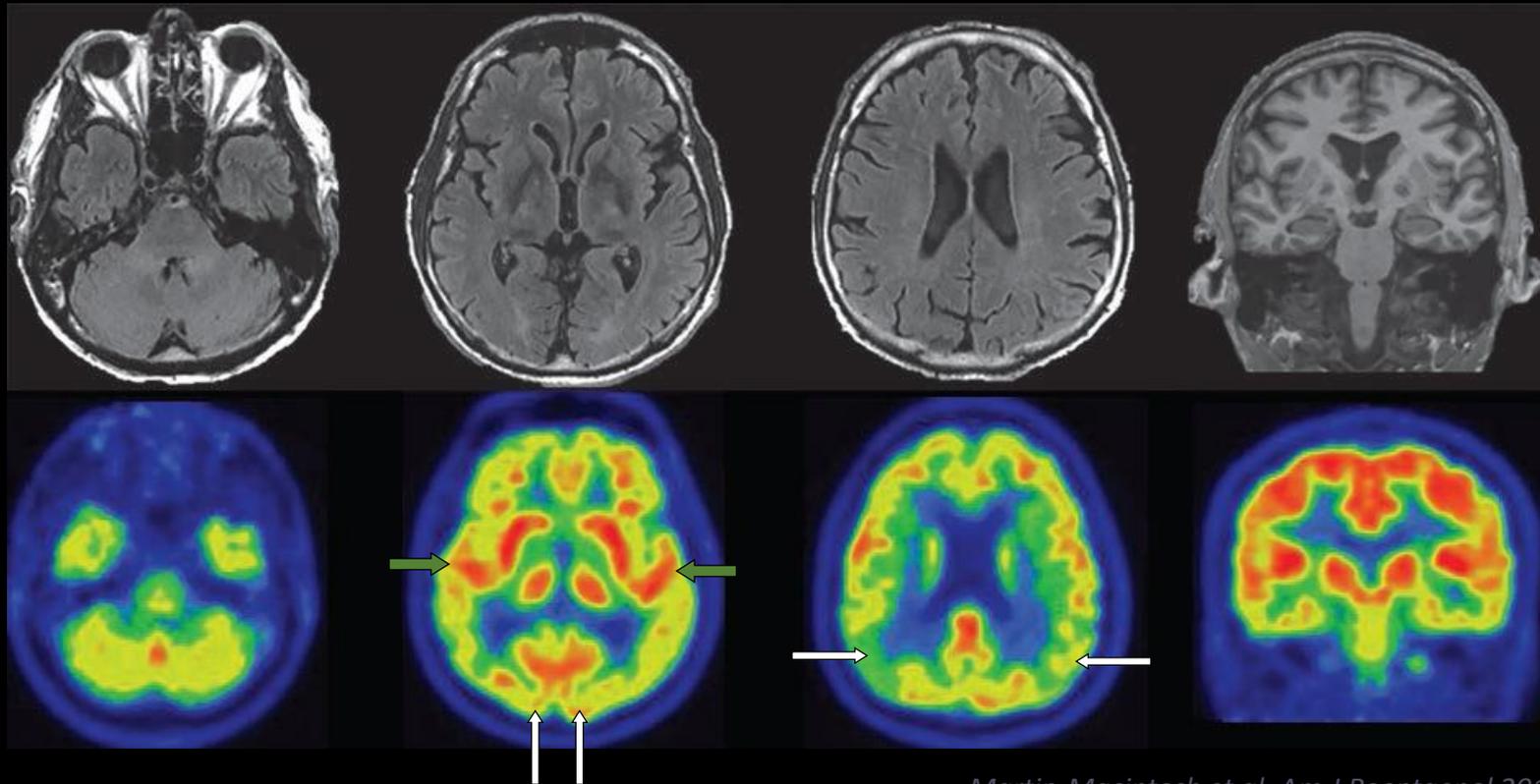
# Métabolisme glucidique : $^{18}\text{F}$ FDG

TEP FDG : *Démence fronto-temporale*



# Métabolisme glucidique : $^{18}\text{F}$ FDG

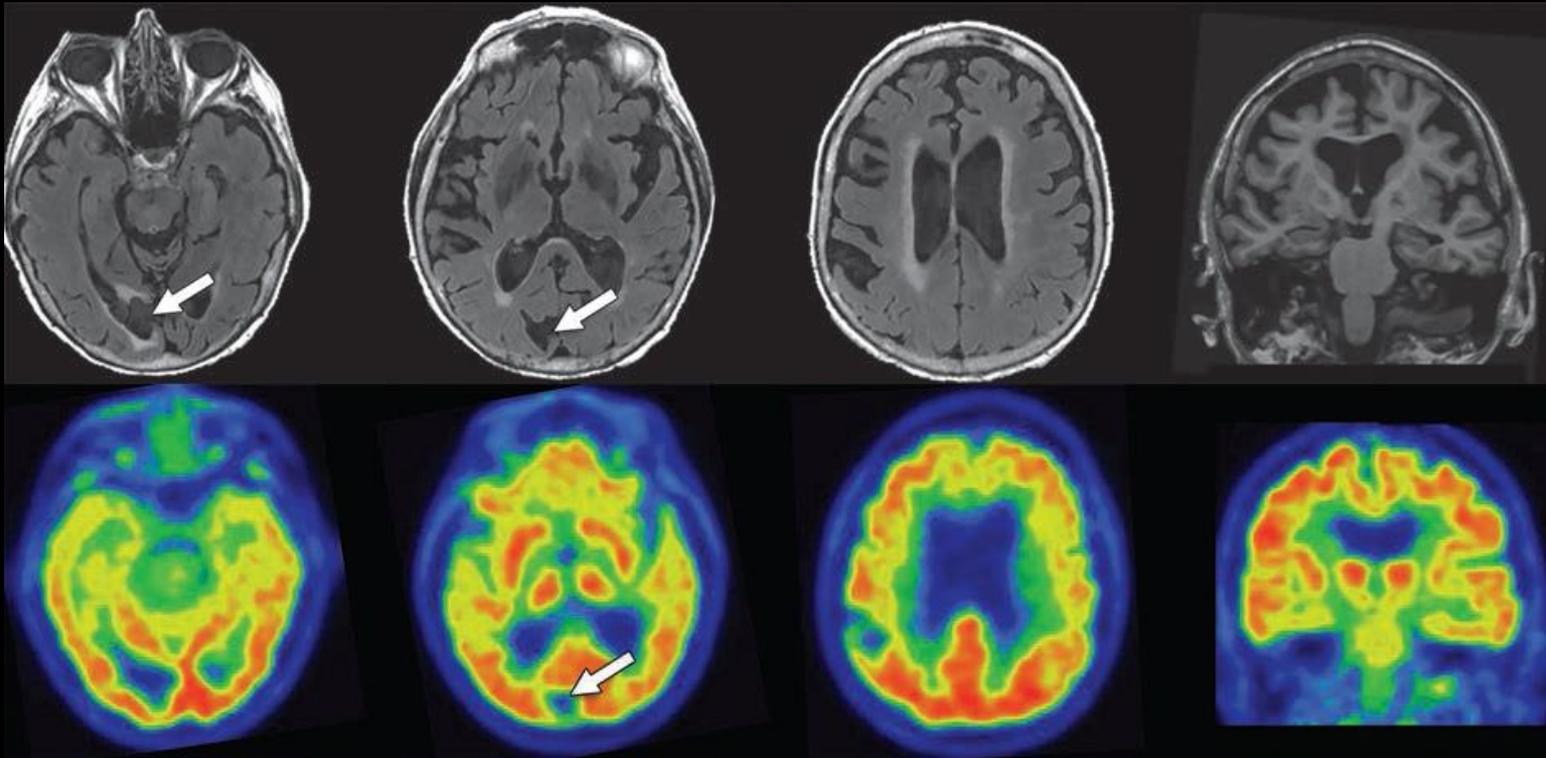
TEP FDG : *Démence à corps de Lewy diffus*



*Martin-Macintosh et al. Am J Roentgenol 2016*

# Métabolisme glucidique : $^{18}\text{F}$ FDG

TEP FDG : *Démence vasculaire*

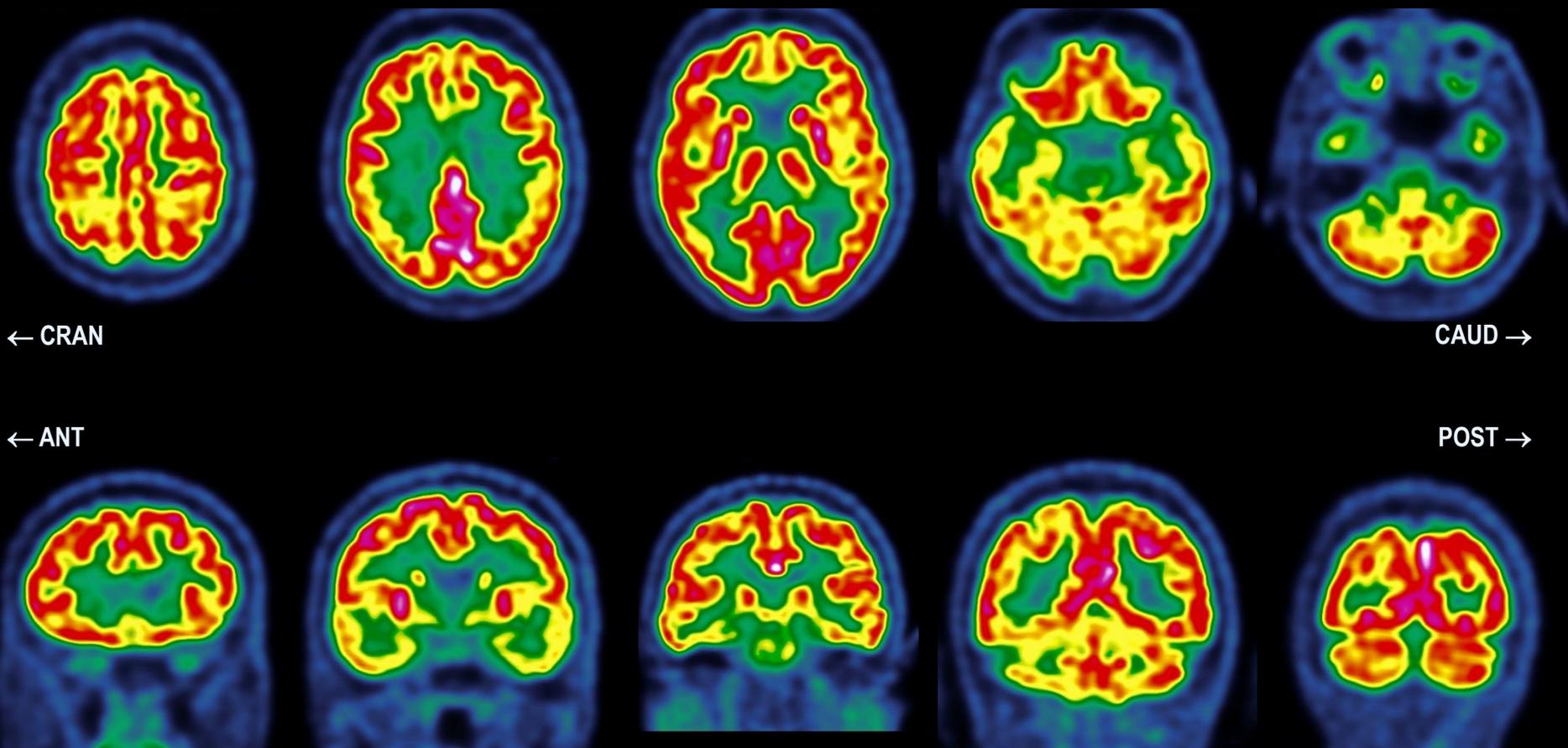


# Métabolisme glucidique : $^{18}\text{F}$ FDG

## Cas #1

Femme, 66 ans

Plainte mnésique modérée

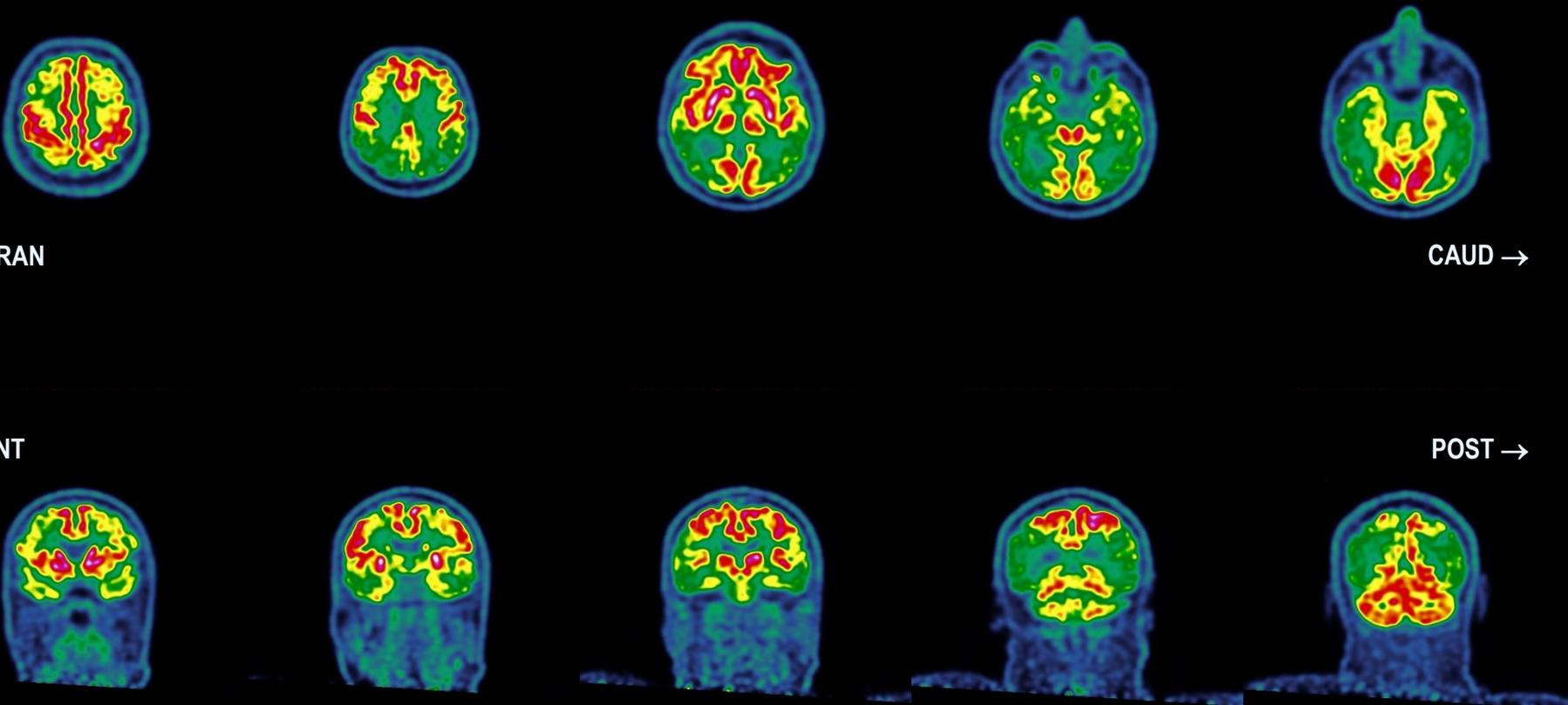


# Métabolisme glucidique : $^{18}\text{F}$ FDG

## Cas #2

*Homme, 75 ans*

*Détérioration cognitive rapide, MMSE 22*

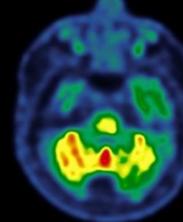
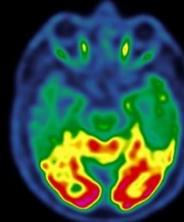
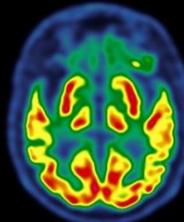
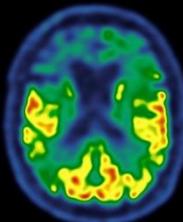
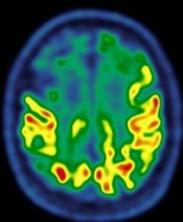
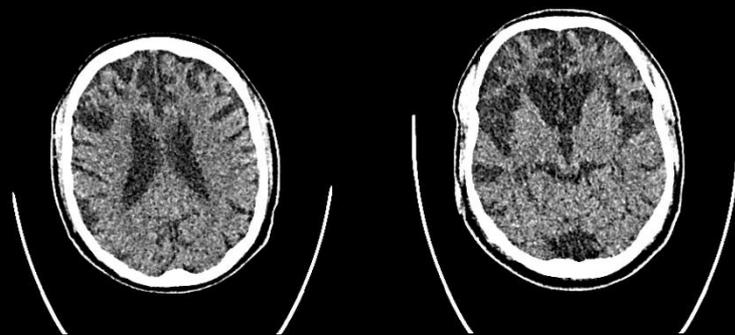


# Métabolisme glucidique : $^{18}\text{F}$ FDG

Cas #3

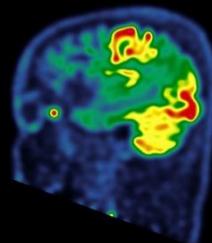
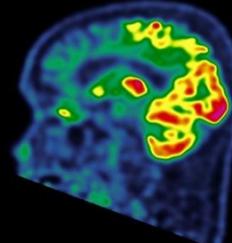
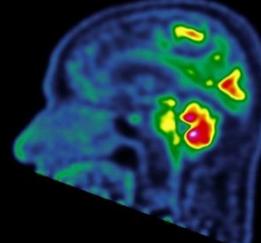
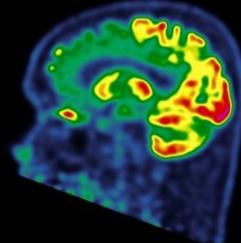
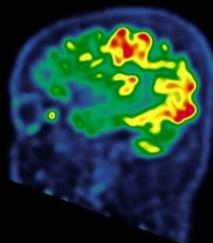
Homme, 61 ans

Troubles du comportement



← CRAN

CAUD →



← G

D →

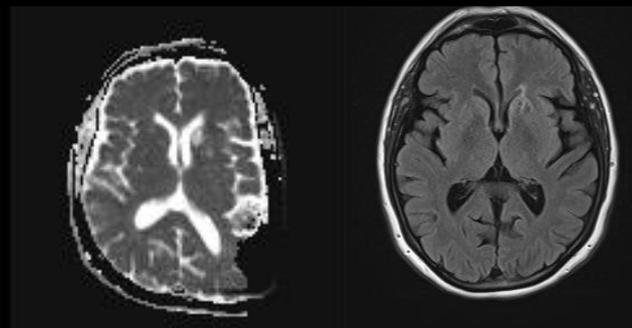
# Métabolisme glucidique : $^{18}\text{F}$ FDG

## Cas #4

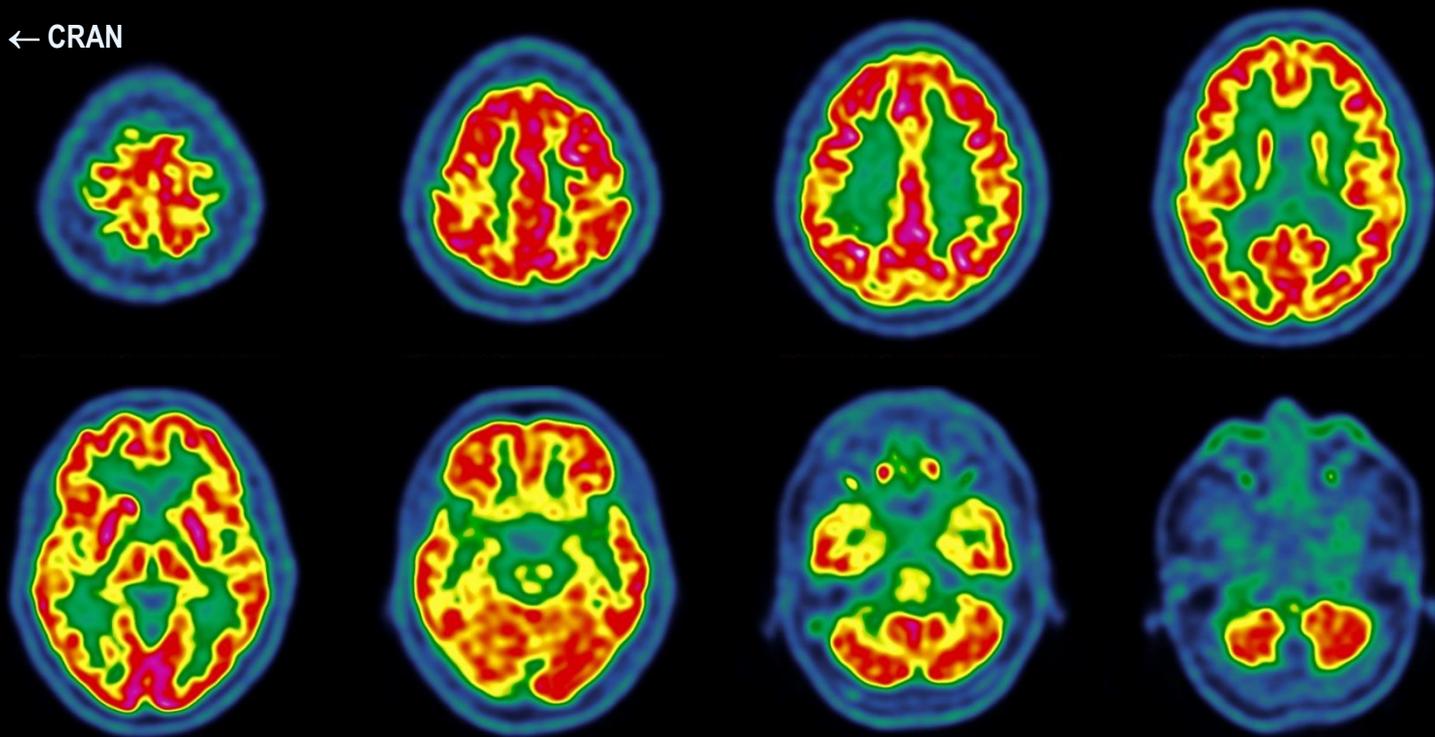
Homme, 62 ans

Plainte mnésique

Atcd...



← CRAN



CAUD →

# Métabolisme glucidique : $^{18}\text{F}$ FDG

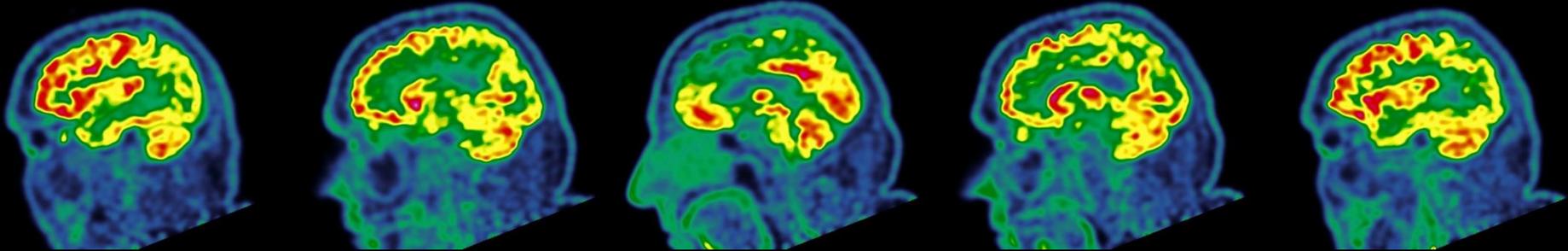
## Cas #5

*Homme, 61 ans*

*Syndrome démentiel*

*Syndrome extrapyramidal*

← G



D →

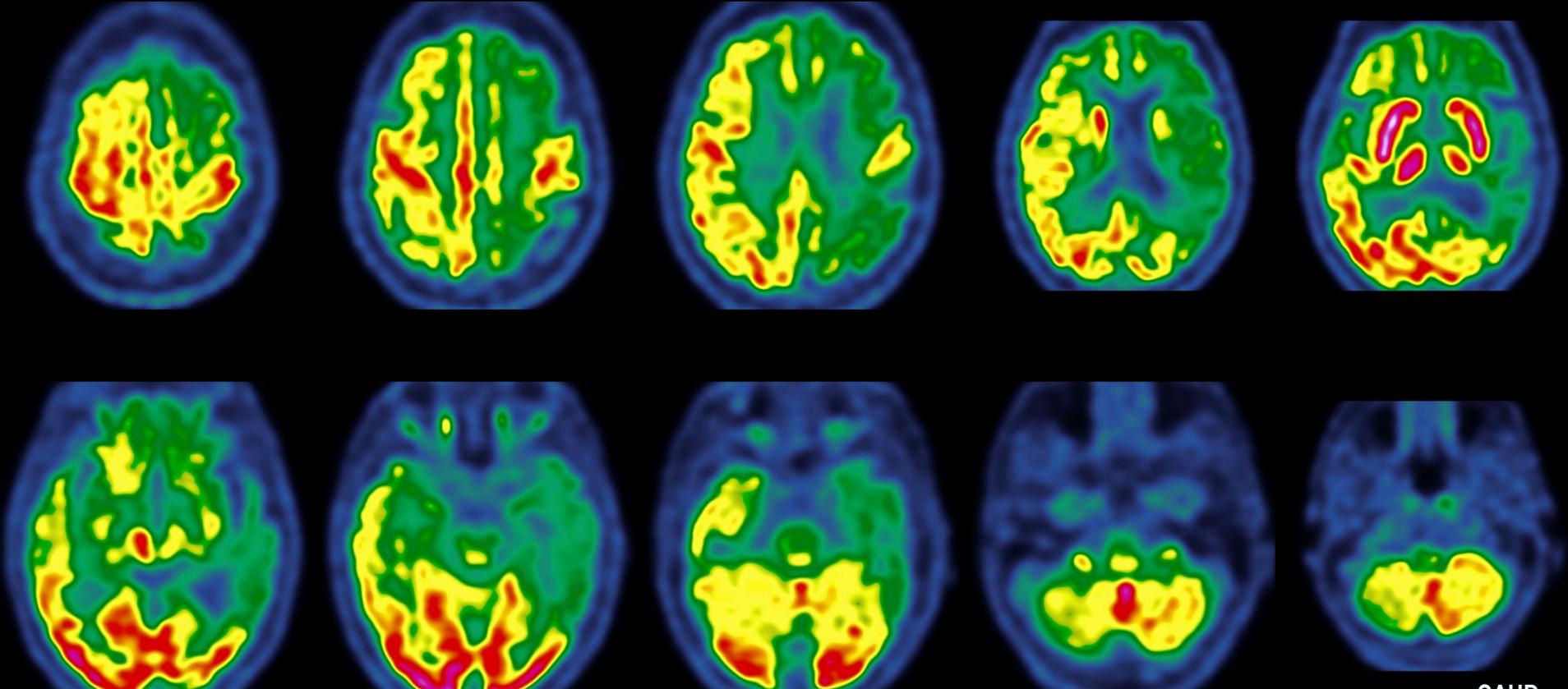
# Métabolisme glucidique : $^{18}\text{F}$ FDG

Cas #6

Femme, 86 ans

*Troubles cognitifs et phasiques depuis 2 ans*

← CRAN



CAUD →

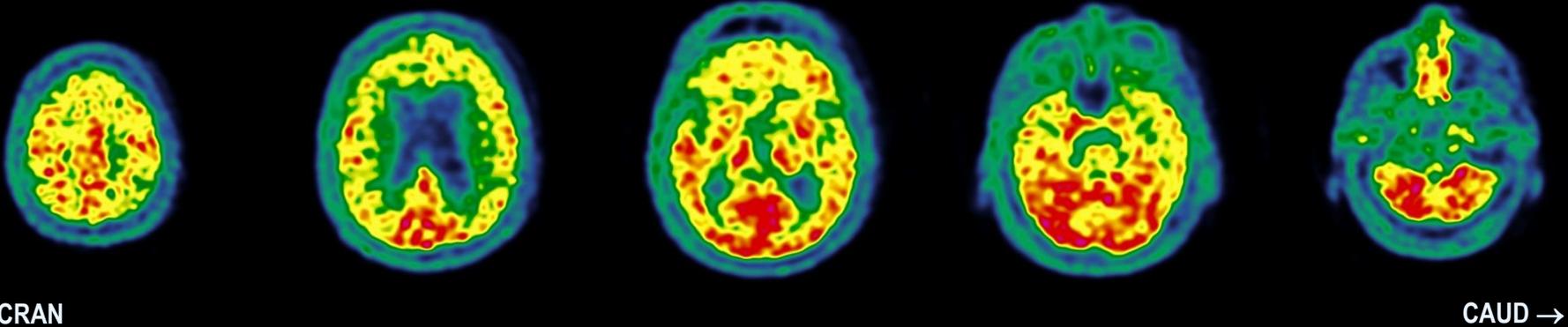
# Métabolisme glucidique : $^{18}\text{F}$ FDG

## Cas #7

*Homme, 81 ans*

*Troubles mémoire épisodique*

*Diabète déséquilibré*



# Métabolisme glucidique : $^{18}\text{F}$ FDG

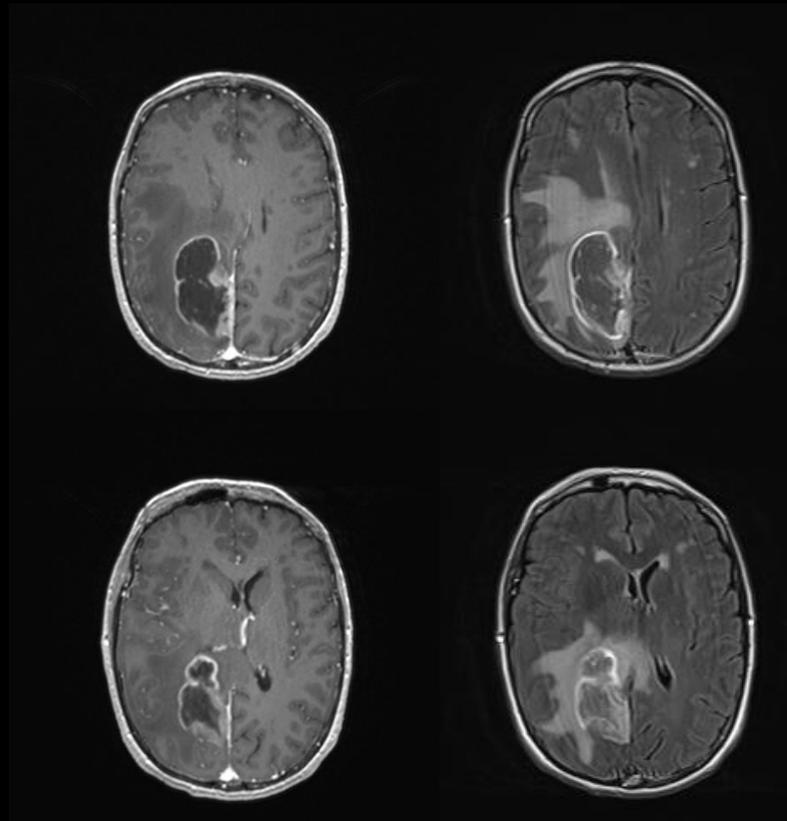
## Cas #8

*Homme, 72 ans*

*ADK pulmonaire*

*découvert sur méta cérébrale*

11 juin 2016



# Métabolisme glucidique : $^{18}\text{F}$ FDG

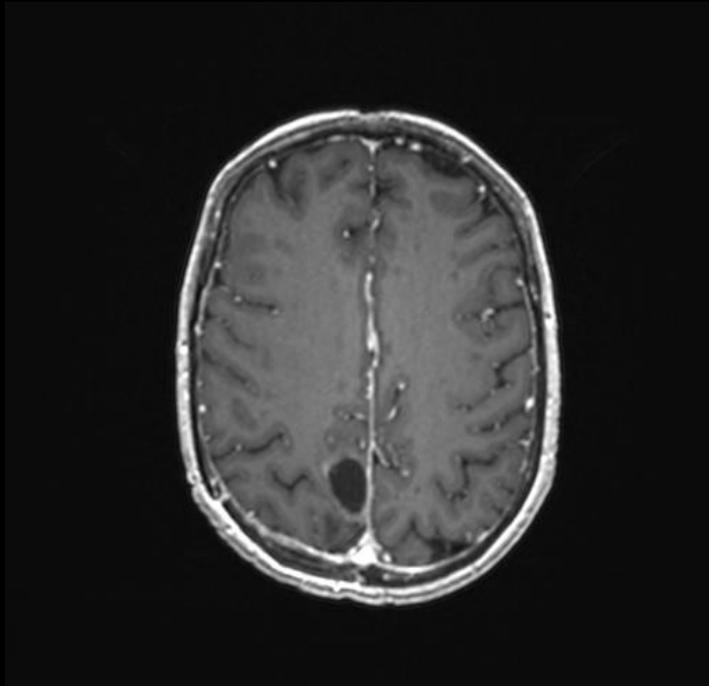
## Cas #8

*Homme, 72 ans*

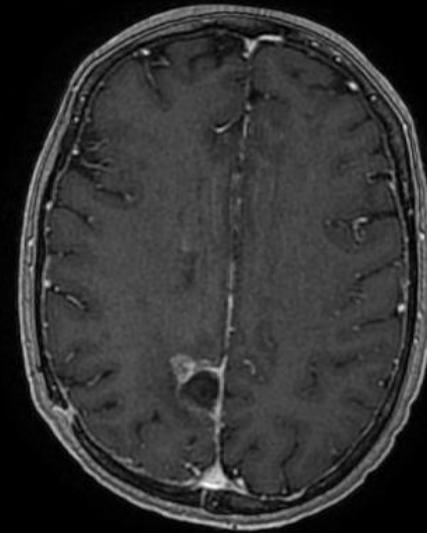
*ADK pulmonaire*

*découvert sur méta cérébrale*

10 oct. 2016



16 mars 2017



# Métabolisme glucidique : $^{18}\text{F}$ FDG

## Cas #8

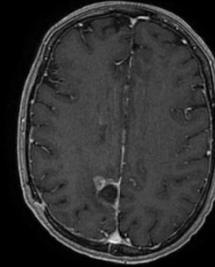
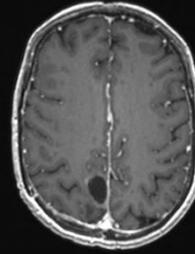
Homme, 72 ans

ADK pulmonaire

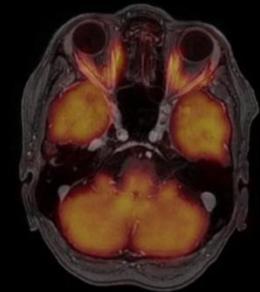
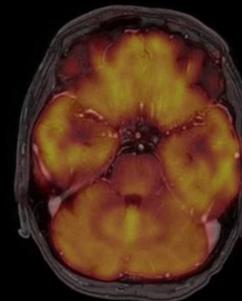
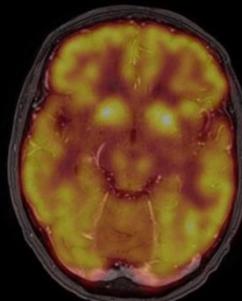
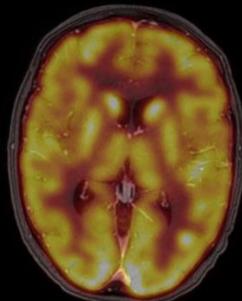
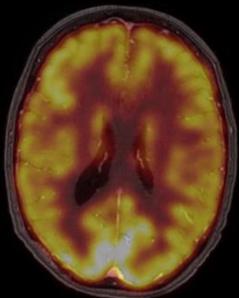
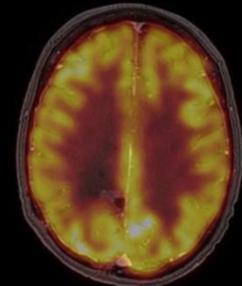
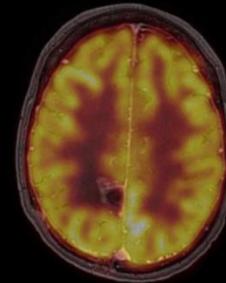
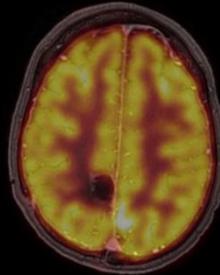
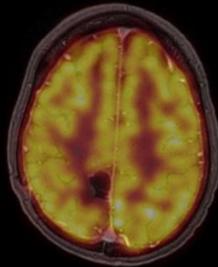
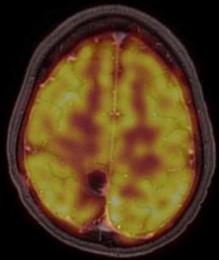
découvert sur méta cérébrale

10 oct. 2016

16 mars 2017



← CRAN



CAUD →

# Métabolisme glucidique : $^{18}\text{F}$ FDG

## Cas #8

Homme, 72 ans

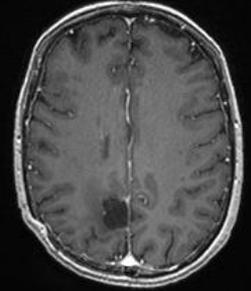
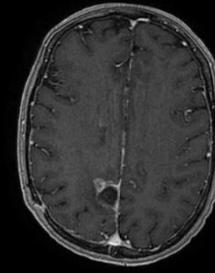
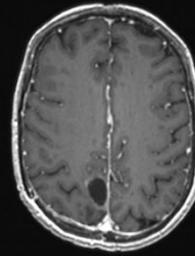
ADK pulmonaire

découvert sur méta cérébrale

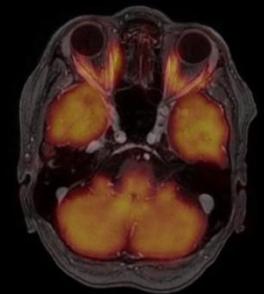
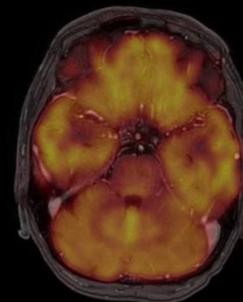
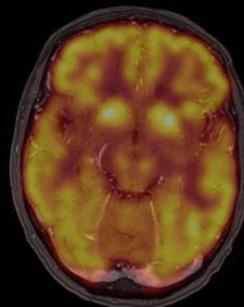
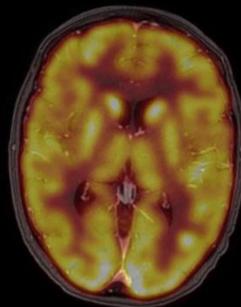
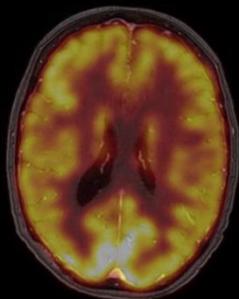
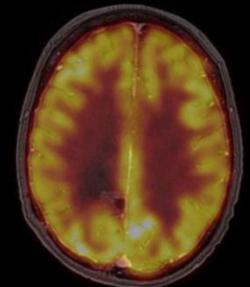
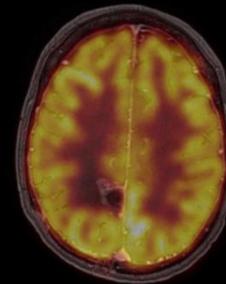
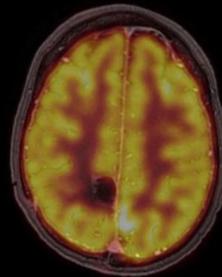
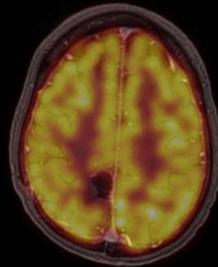
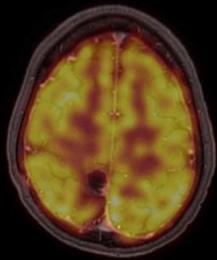
10 oct. 2016

16 mars 2017

18 sept. 2017



← CRAN

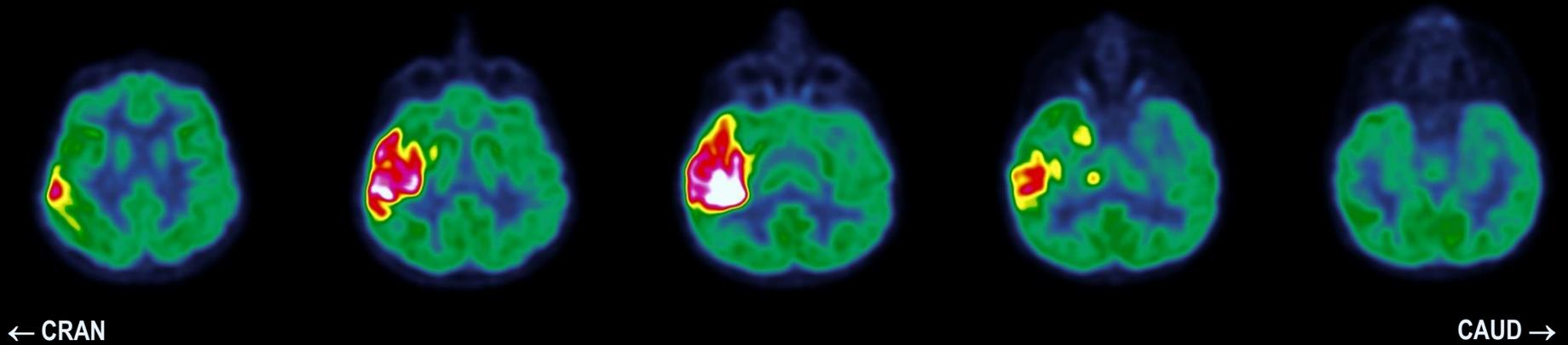


CAUD →

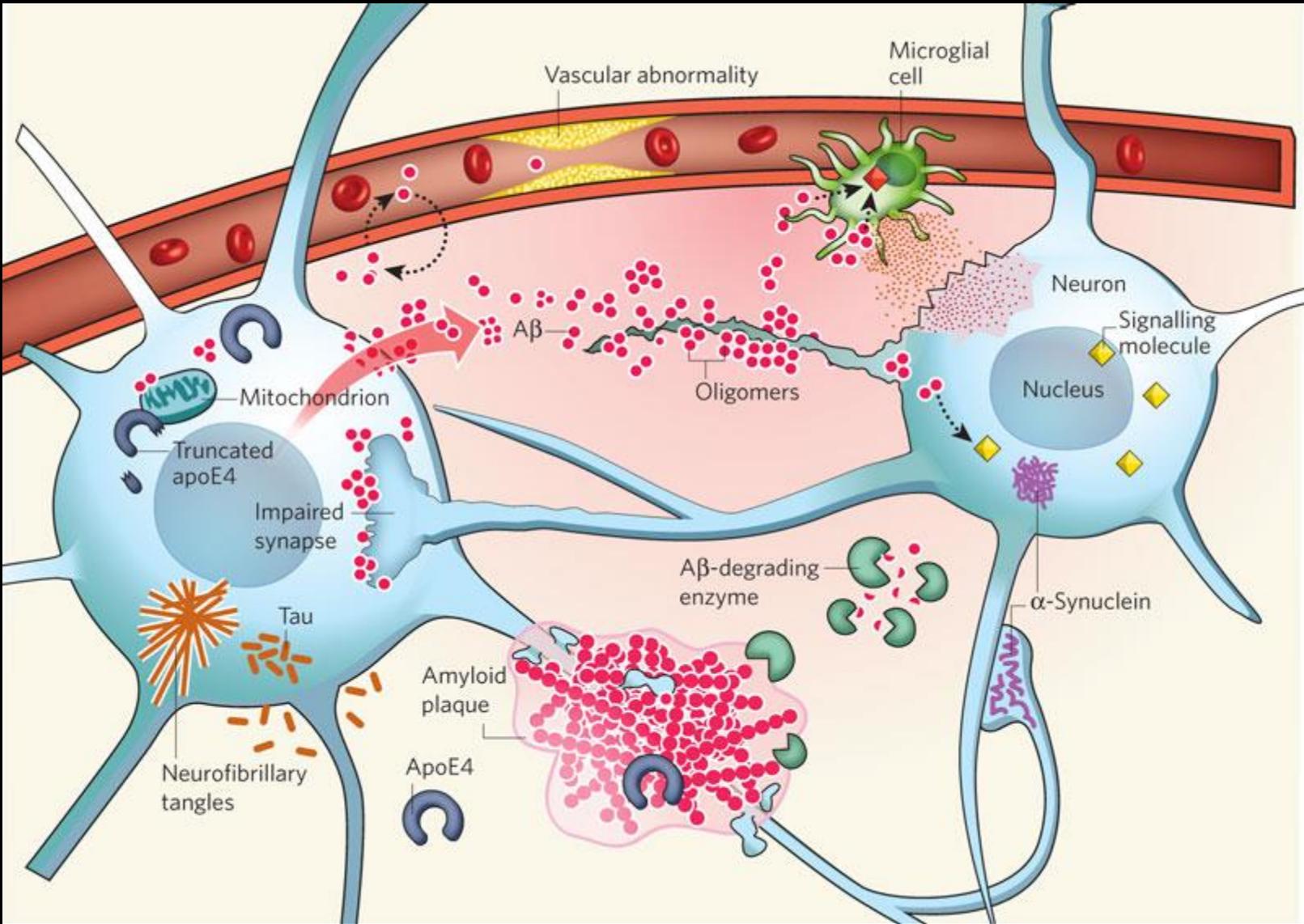
# Métabolisme glucidique : $^{18}\text{F}$ FDG

Cas #9

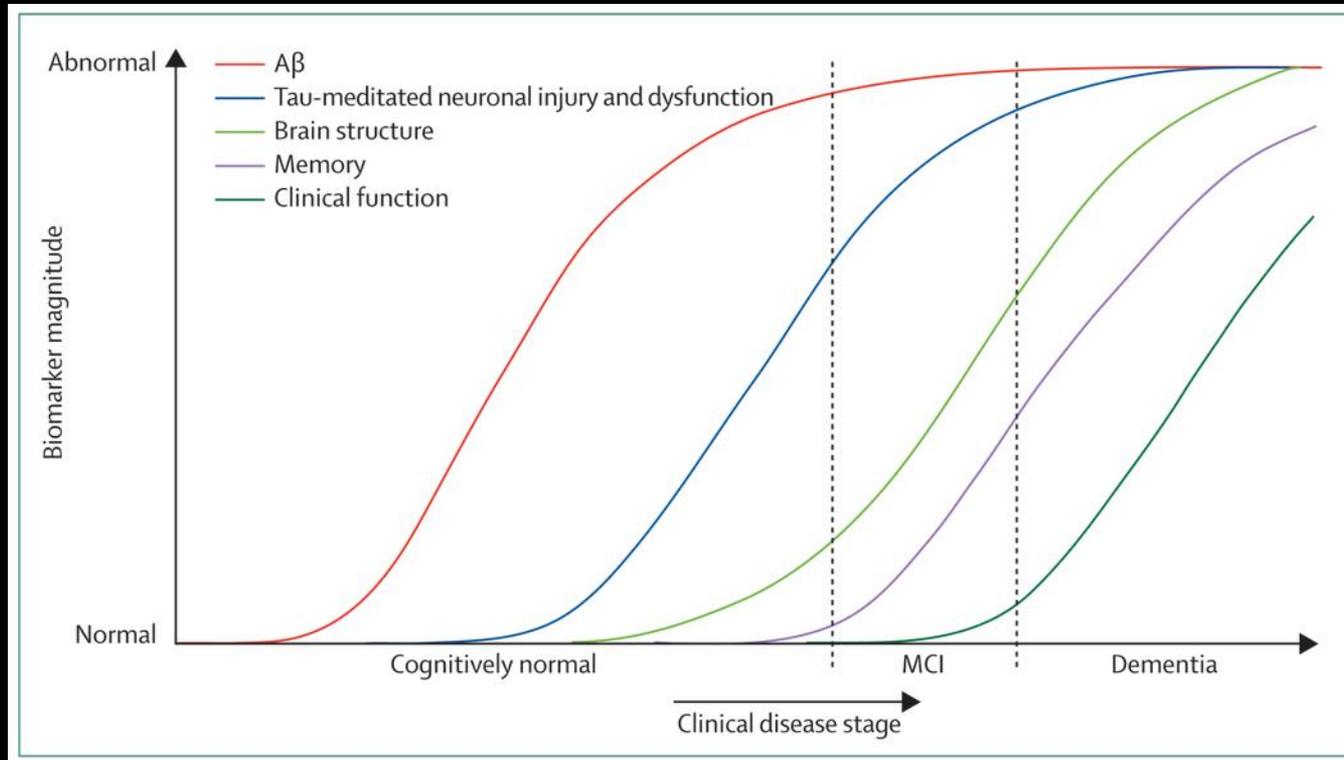
*Enfant, 3 ans*



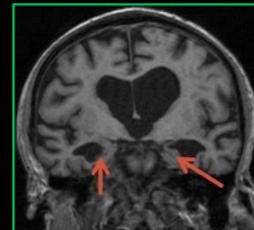
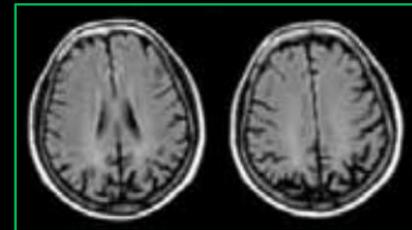
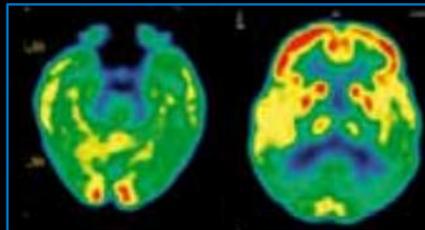
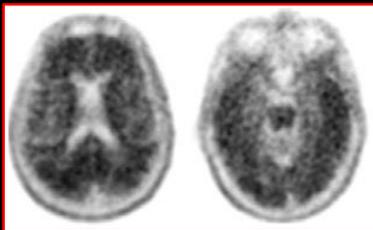
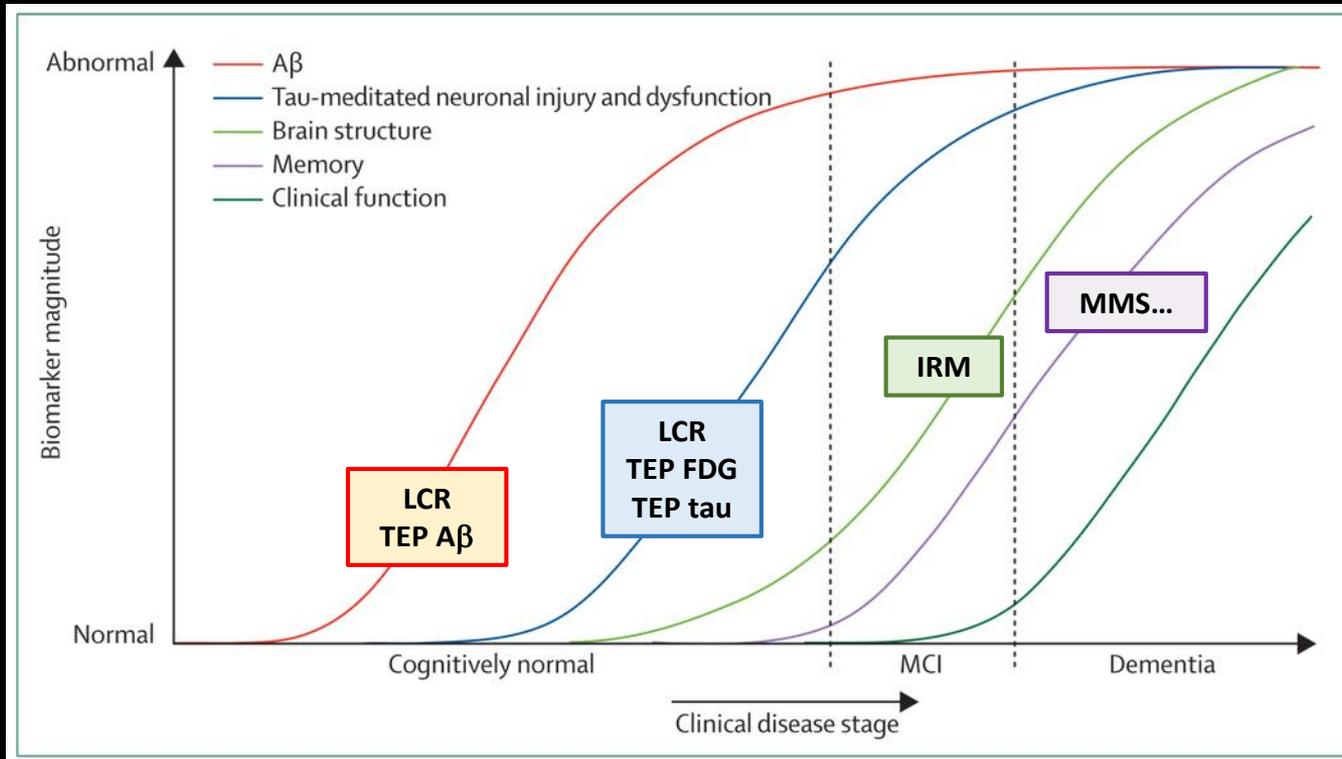
# Amyloidopathie / tauopathie



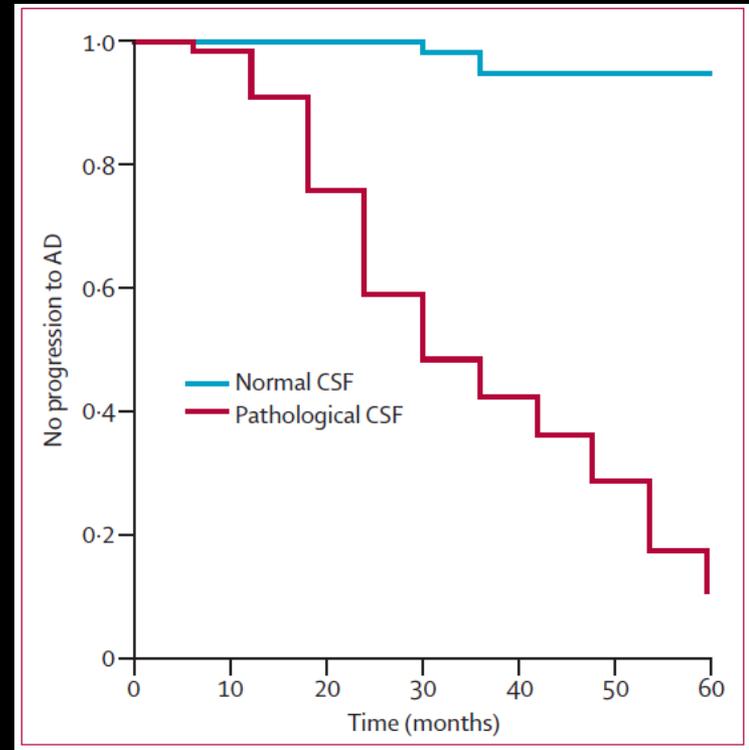
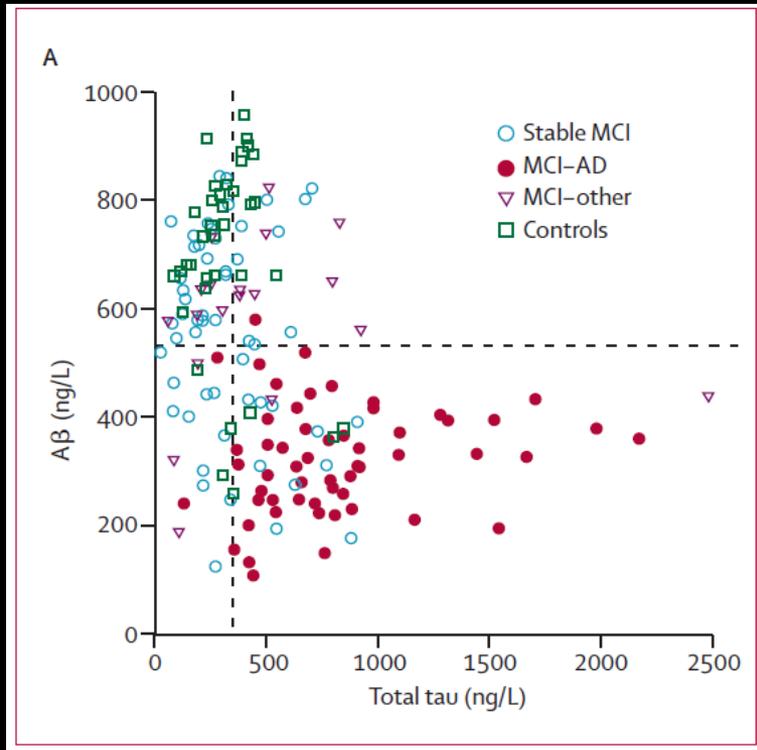
# Amyloidopathie / tauopathie



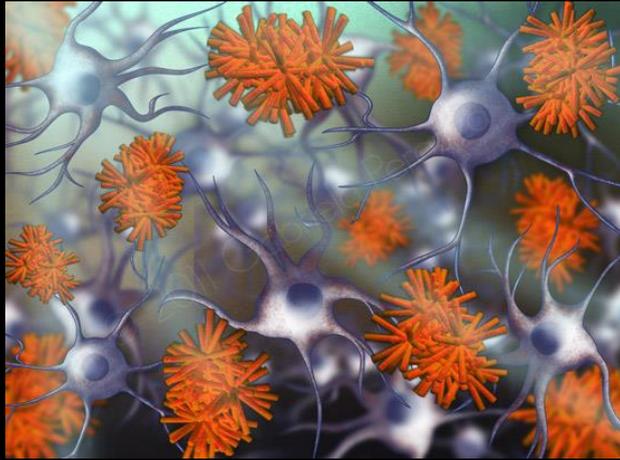
# Amyloidopathie / tauopathie



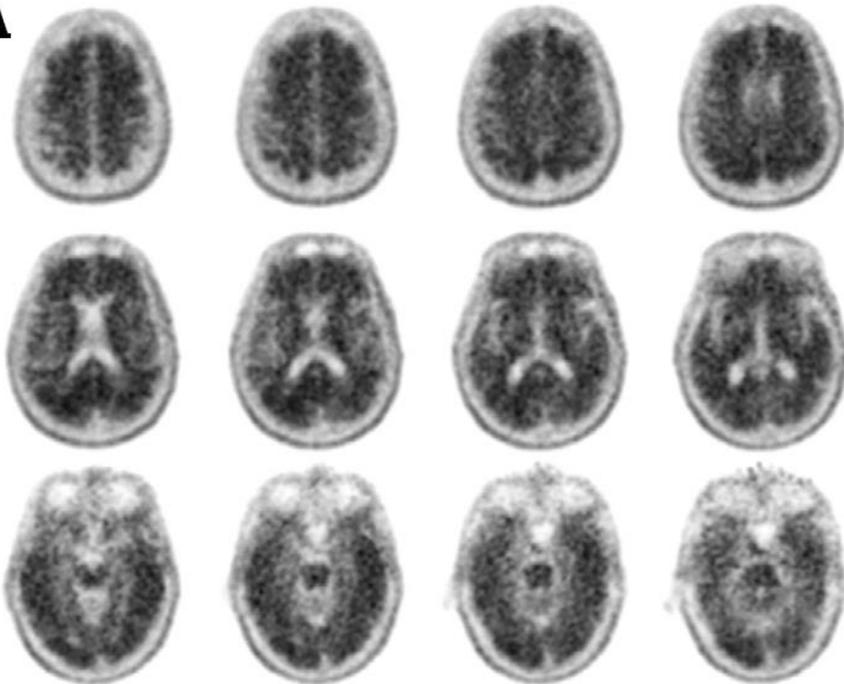
# Amyloidopathie / tauopathie



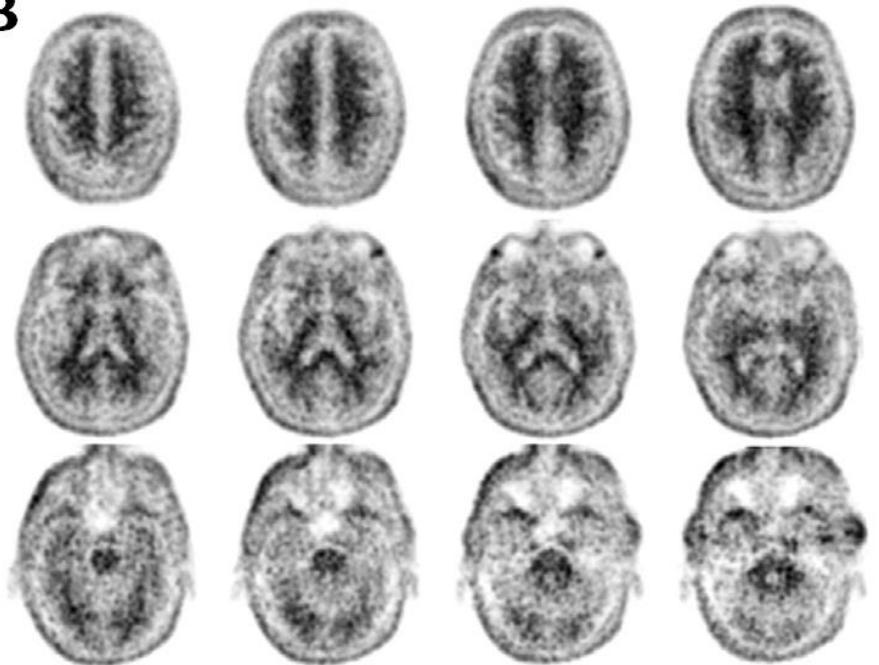
# Amyloidopathie / tauopathie



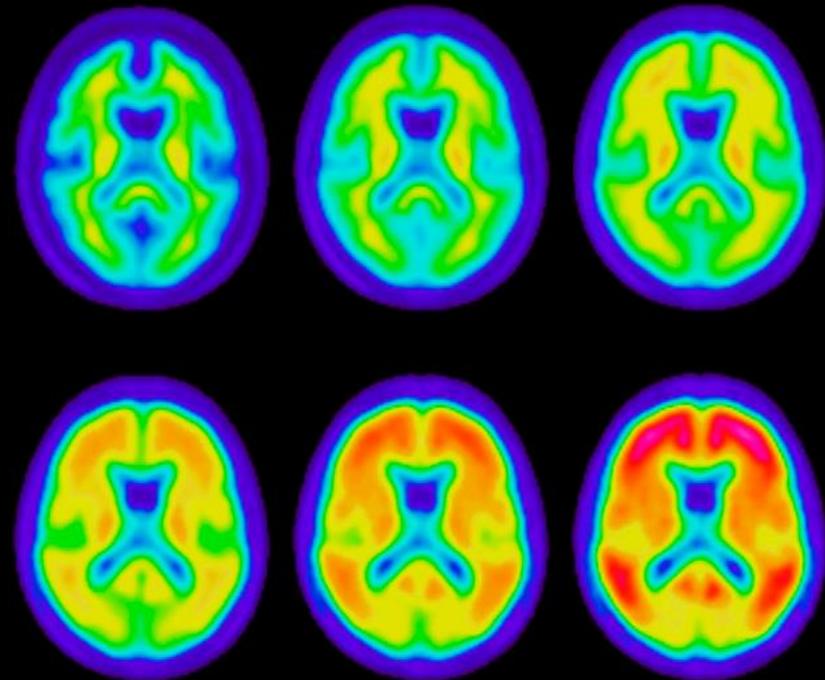
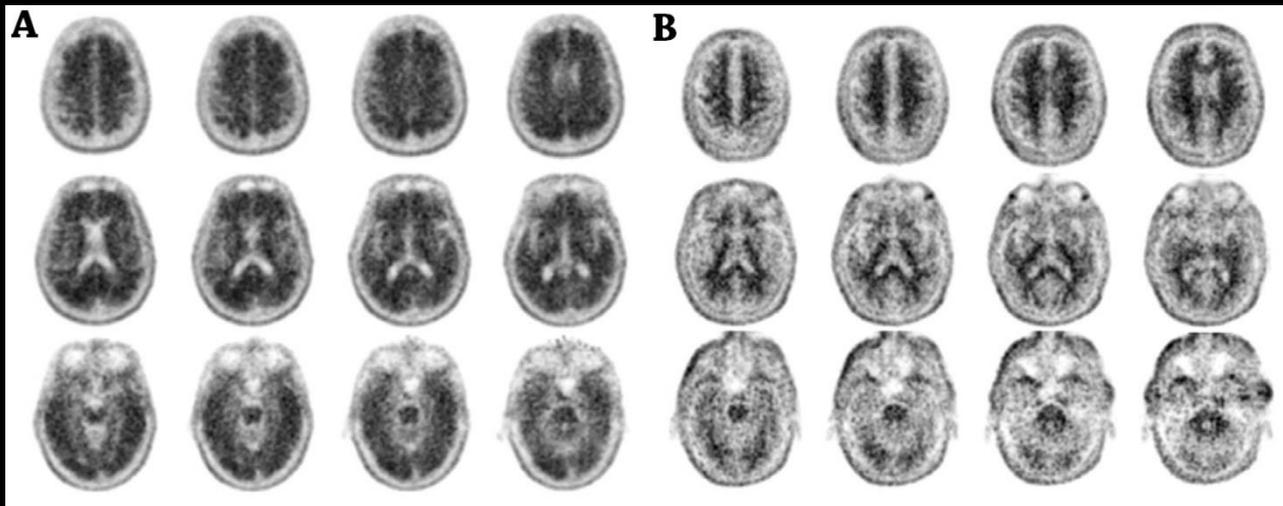
**A**



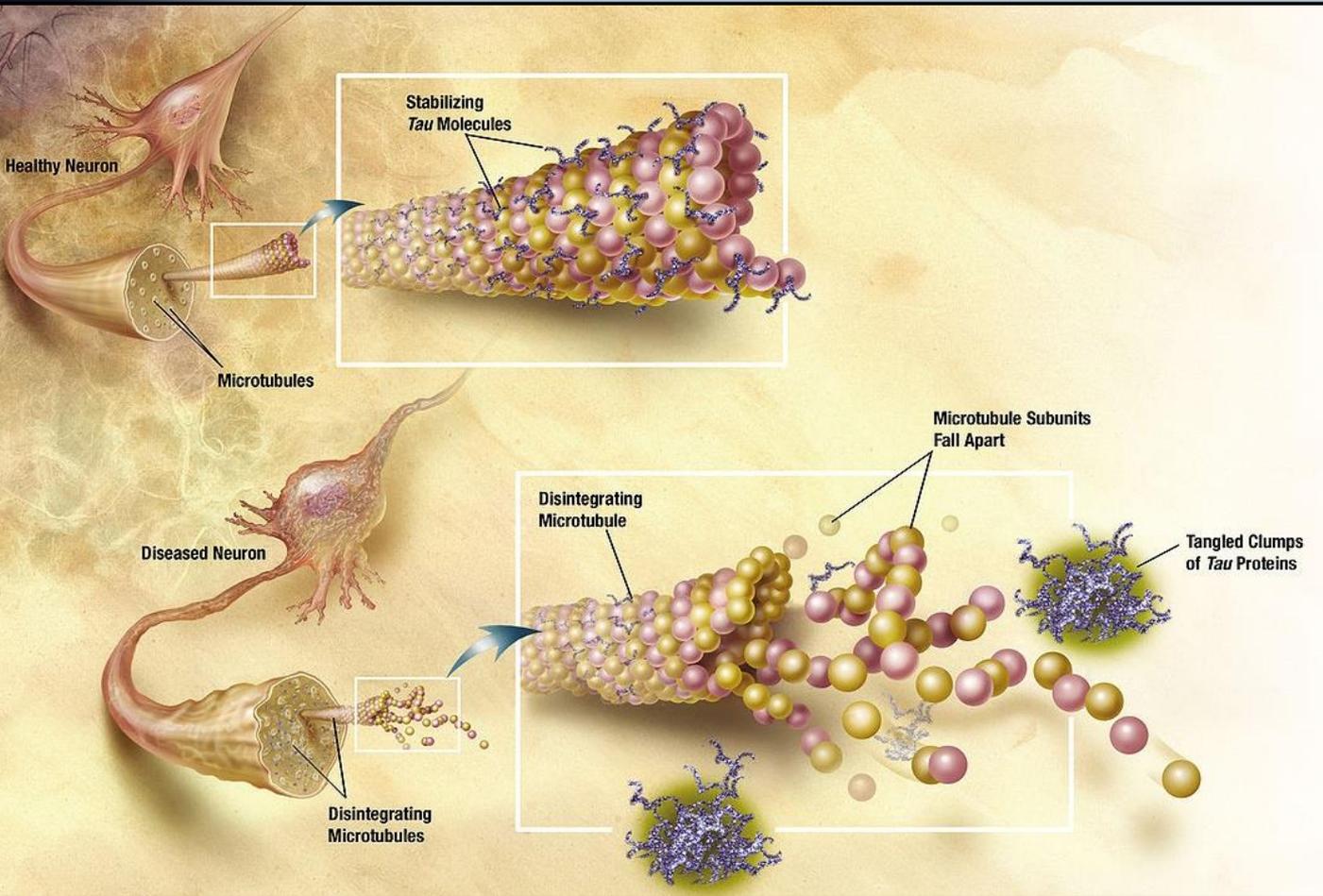
**B**



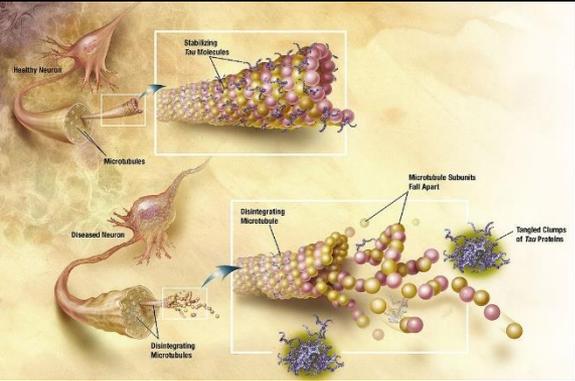
# Amyloidopathie / tauopathie



# Amyloidopathie / tauopathie



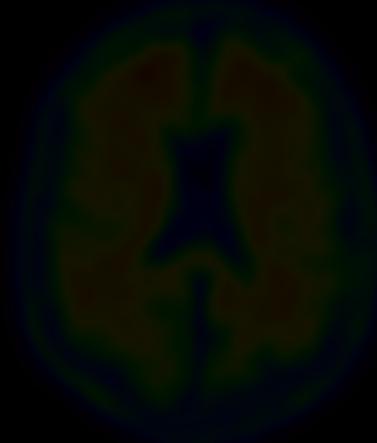
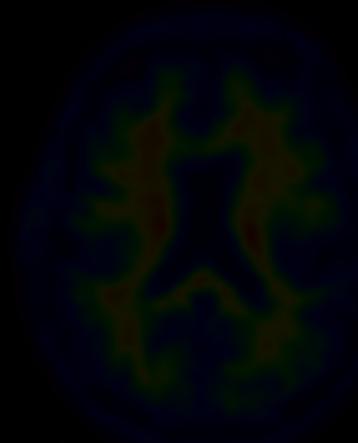
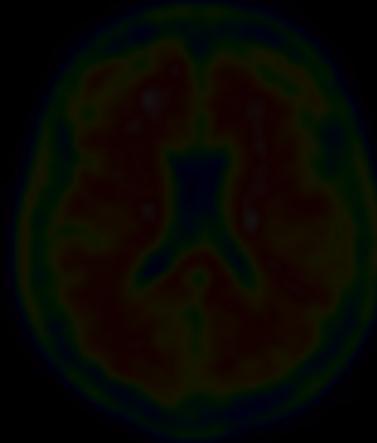
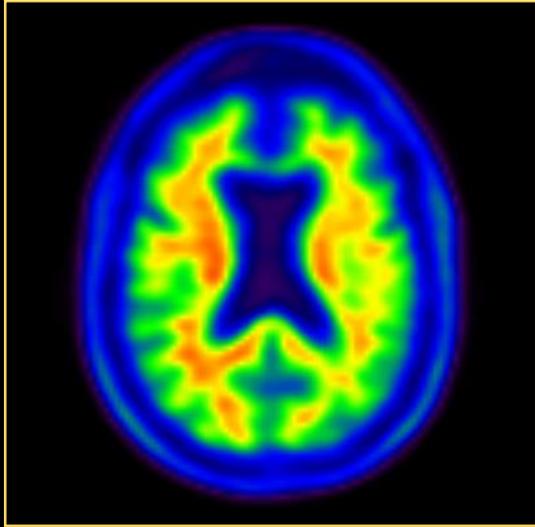
# Amyloidopathie / tauopathie



# Amyloïdopathie / tauopathie

## Cas #1

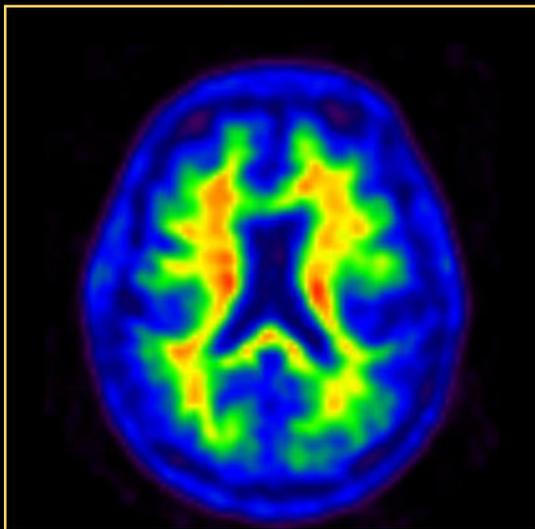
*Femme, 72 ans, troubles du comportement*



# Amyloïdopathie / tauopathie

## Cas #2

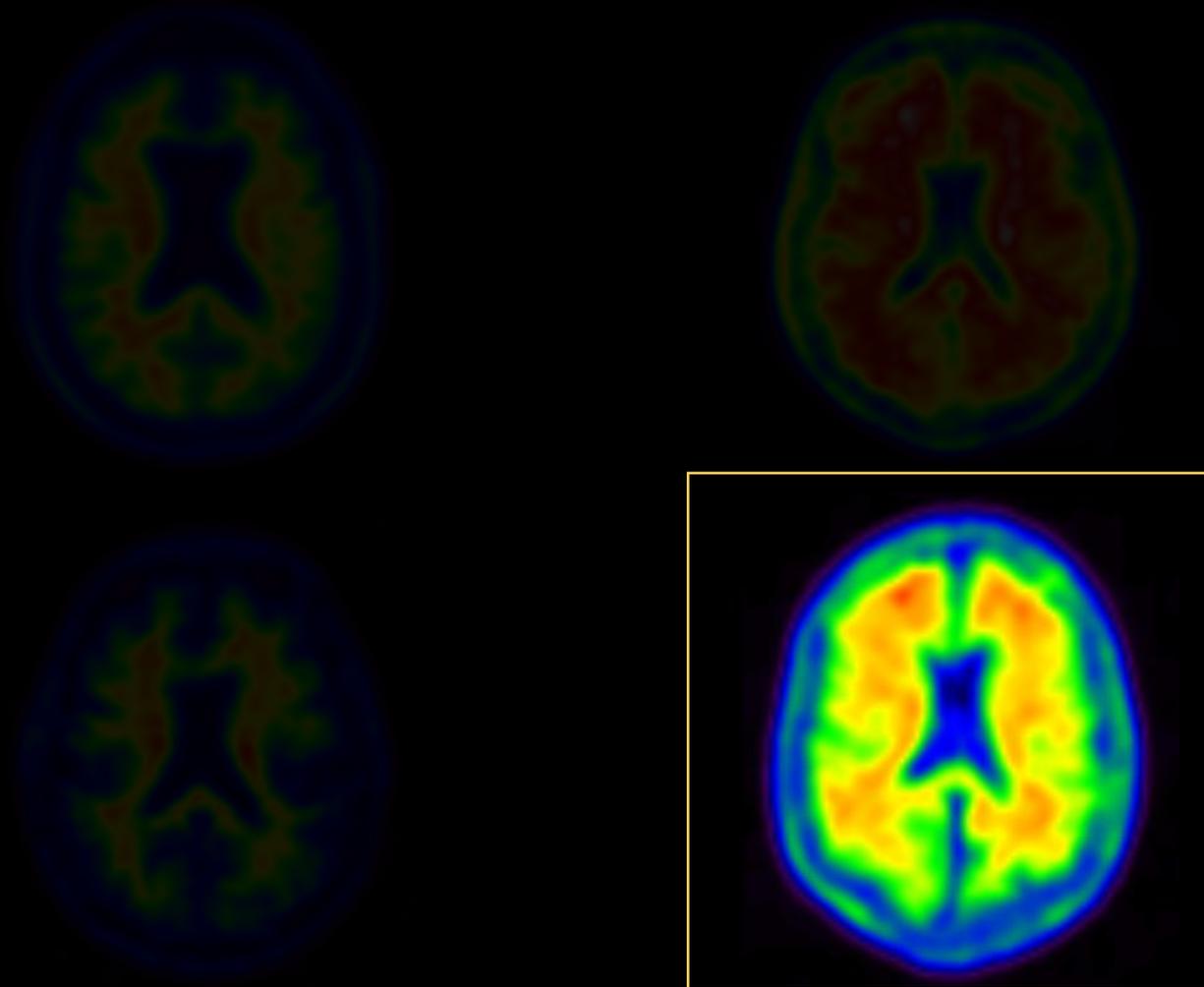
*Homme, 65 ans, plainte cognitive & syndrome extra-pyramidal*



# Amyloïdopathie / tauopathie

## Cas #4

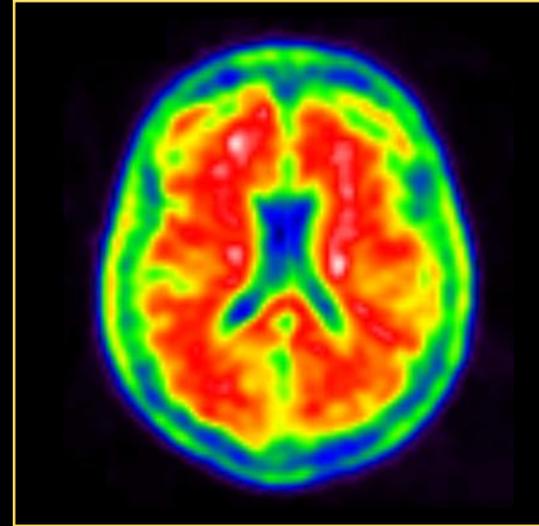
*Femme, 81 ans, ralentissement psycho-moteur*



# Amyloïdopathie / tauopathie

## Cas #3

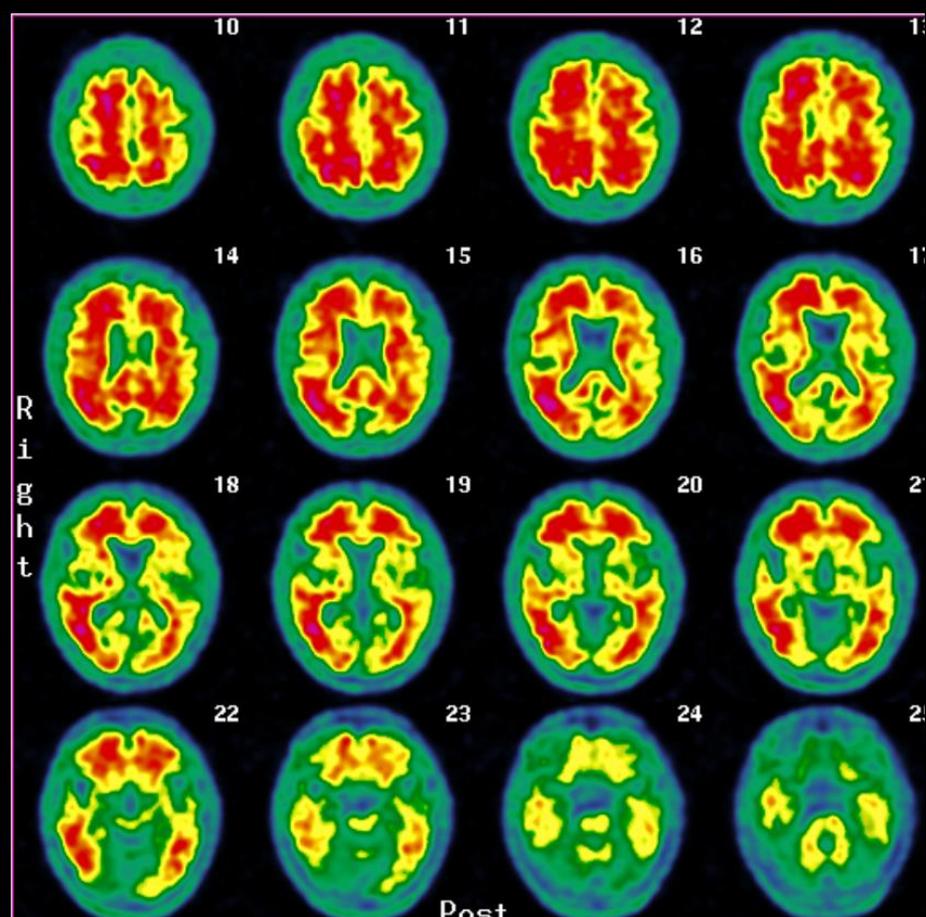
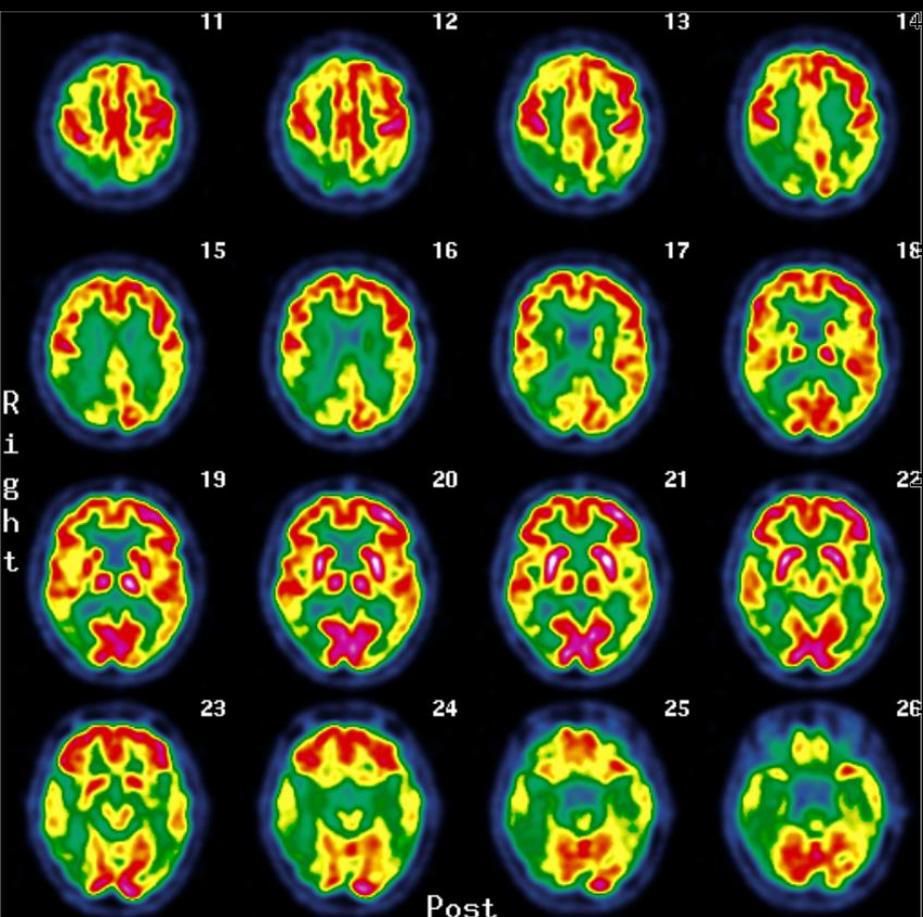
*Homme, 55 ans, antécédents familiaux de MA*



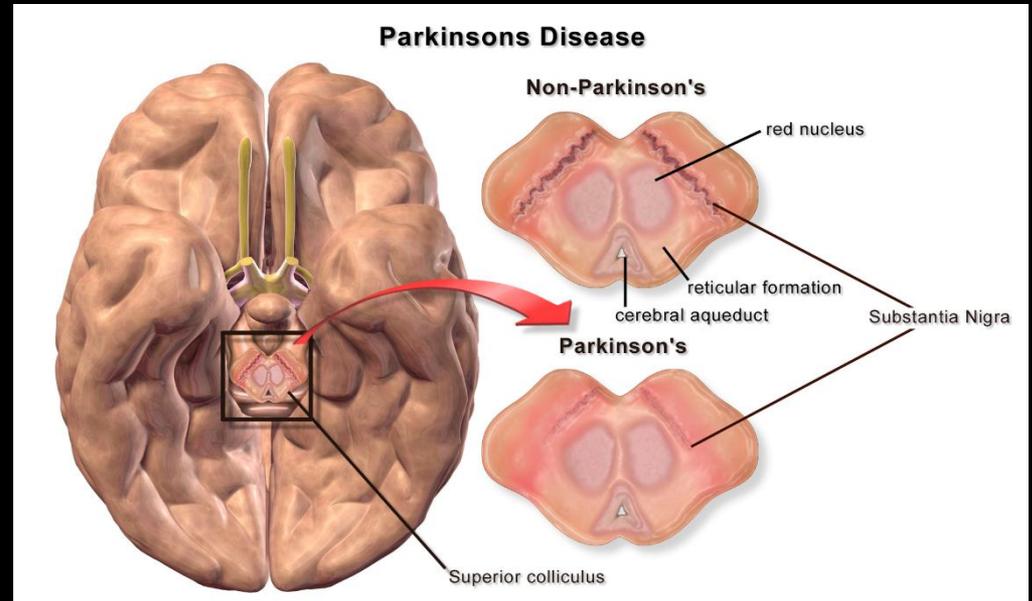
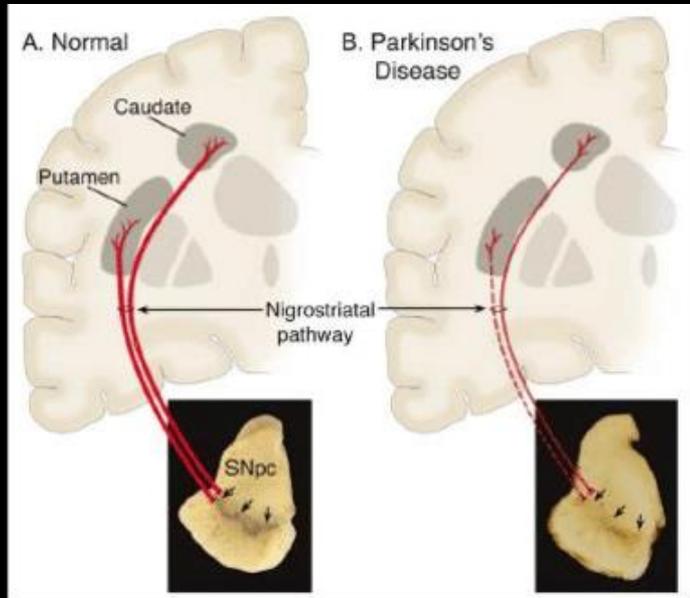
# Amyloïdopathie / tauopathie

## Cas #5

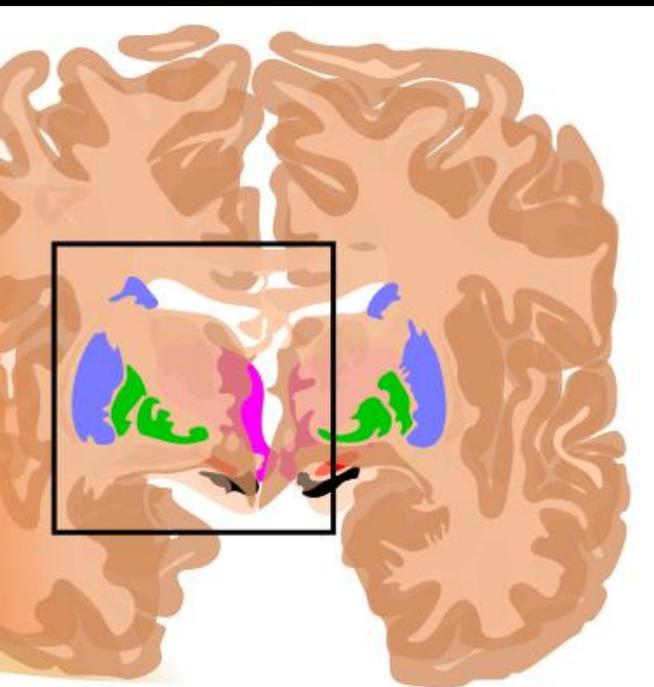
*Homme, 55 ans, troubles mnésiques*



# Innervation dopaminergique : $^{123}\text{I}$ -Datscan



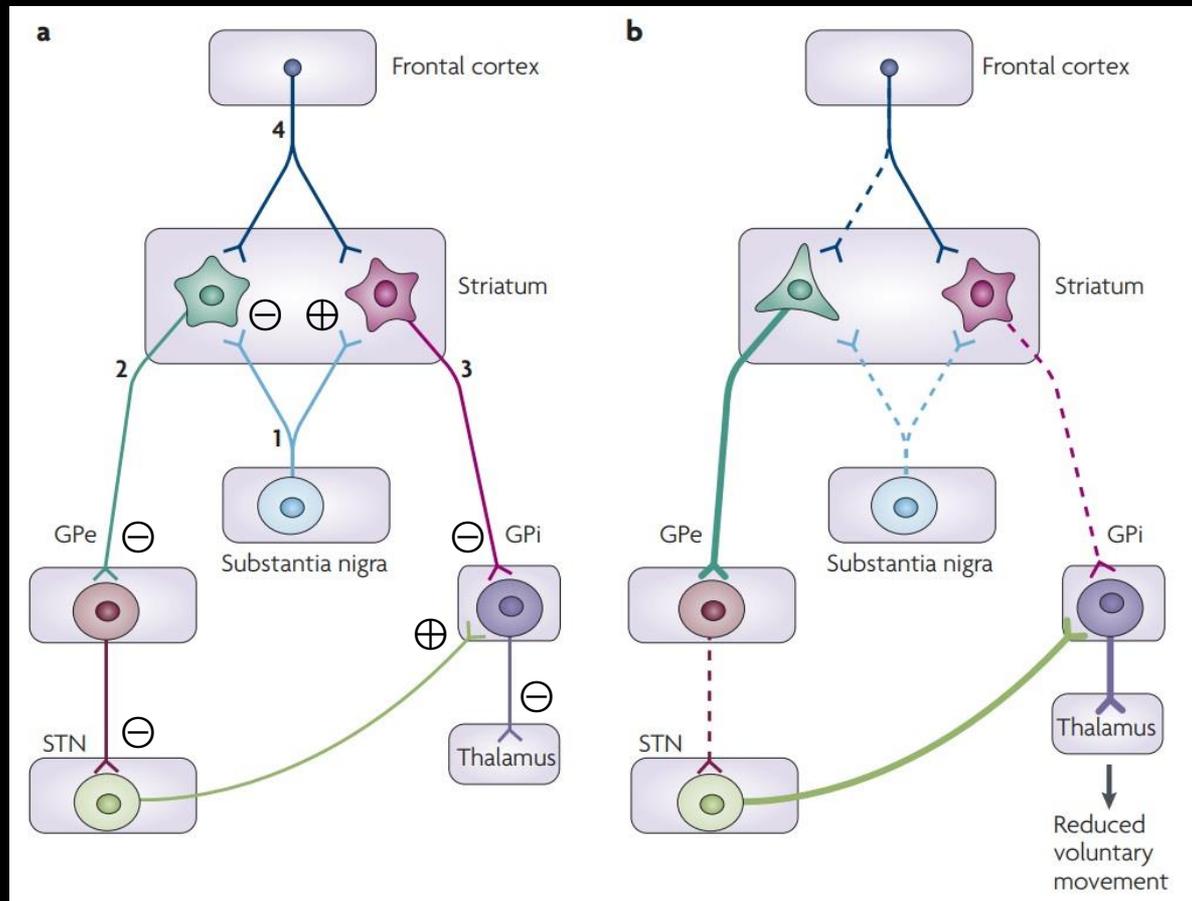
# Innervation dopaminergique : $^{123}\text{I}$ -Datscan



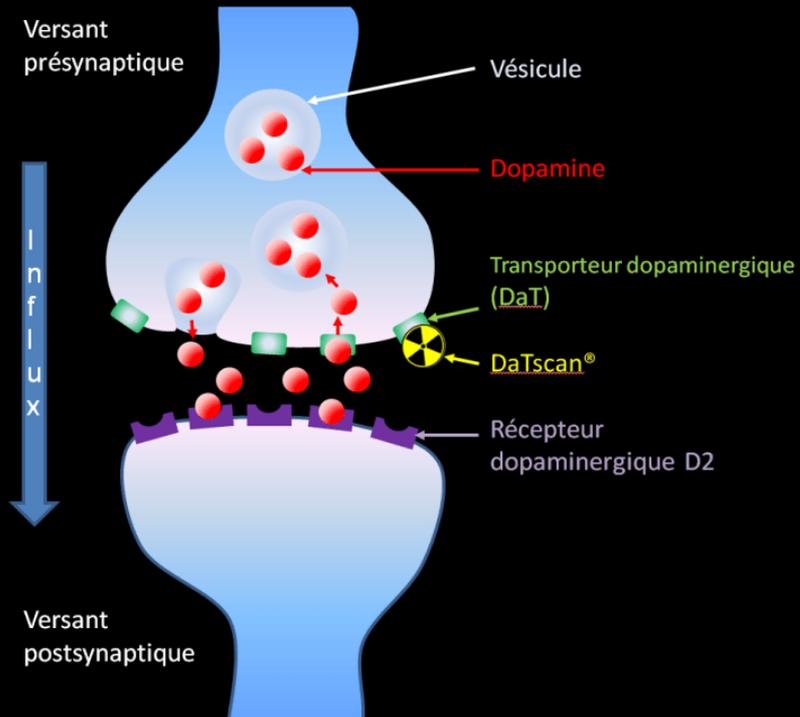
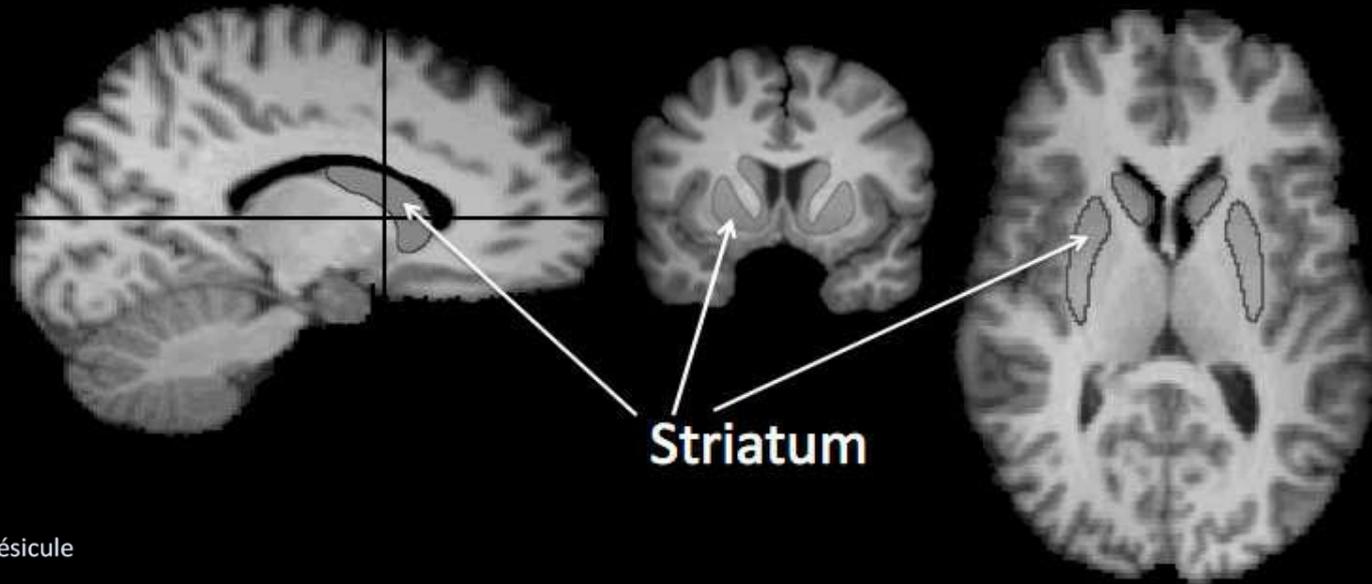
Substantia nigra

Striatum

Thalamus



# Innervation dopaminergique : $^{123}\text{I}$ -Datscan



# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

## 1.3. Indications thérapeutiques

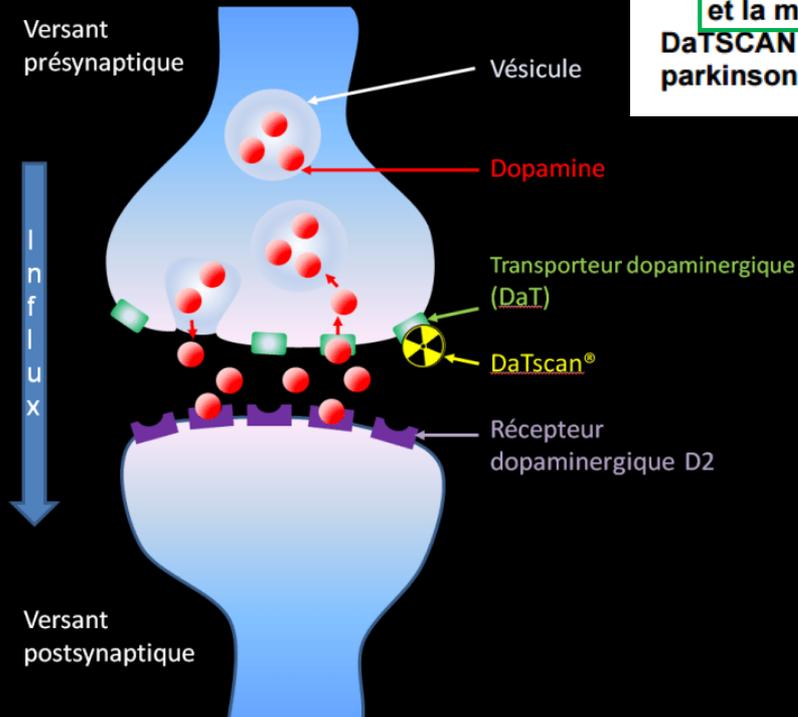
DaTSCAN est indiqué dans la détection d'une perte de terminaisons neuronales dopaminergiques fonctionnelles dans le striatum :

- Chez les patients présentant un **syndrome parkinsonien cliniquement douteux**, afin d'aider au **diagnostic différentiel entre tremblement essentiel et syndromes parkinsoniens** liés à la maladie idiopathique de Parkinson, à l'atrophie multisystématisée ou à la paralysie supranucléaire progressive.

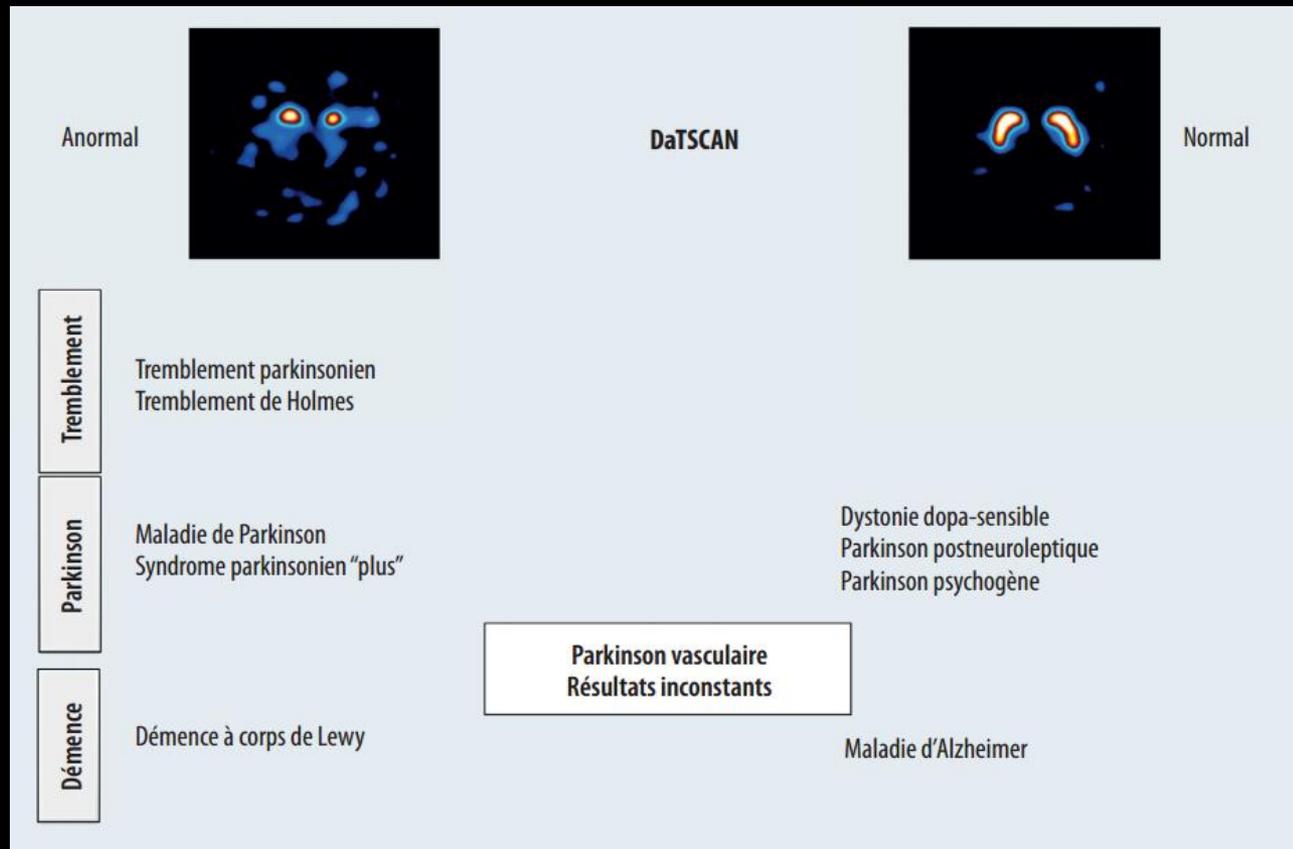
DaTSCAN ne permet pas la différenciation entre maladie de Parkinson, atrophie multisystématisée et paralysie supranucléaire progressive.

- **Pour aider au diagnostic différentiel entre une démence à corps de Lewy probable et la maladie d'Alzheimer.**

DaTSCAN ne permet pas la différenciation entre démence à corps de Lewy et démence parkinsonienne.



# Innervation dopaminergique : $^{123}\text{I}$ -Datscan



# Innervation dopaminergique : <sup>123</sup>I-Datscan

All Patients with 36-Month Consensus Clinical Diagnosis of Probable or Possible PD (Study 1),<sup>12</sup> n = 71

	Normal [ <sup>123</sup> I]FP-CIT SPECT at Baseline		Abnormal [ <sup>123</sup> I]FP-CIT SPECT at Baseline	
	n	Mean UPDRS	n	Mean UPDRS
Baseline (T = 0)	15	11.0	56	11.0
36 months (T = 36)	15	14.4	55	21.1
UPDRS Change	15	3.4	55	10.2*

\*P = 0.003 vs. all patients with normal DaTscan at baseline.

Hauser et al. J Neuroimaging 2012

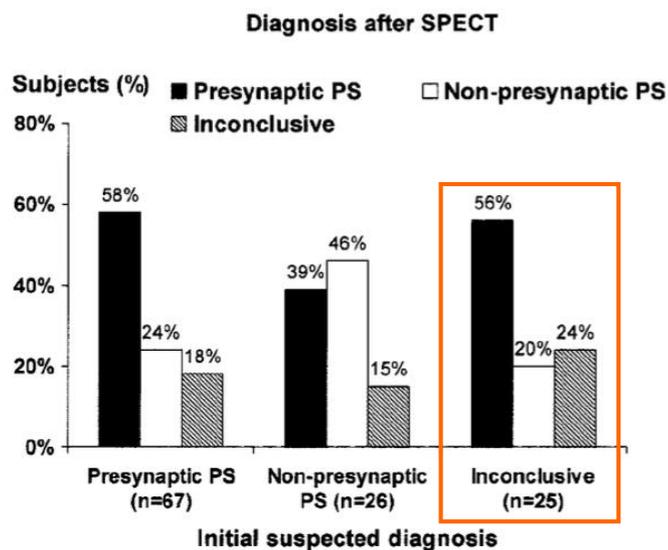


FIG. 3. Changes in the diagnosis after SPECT results.

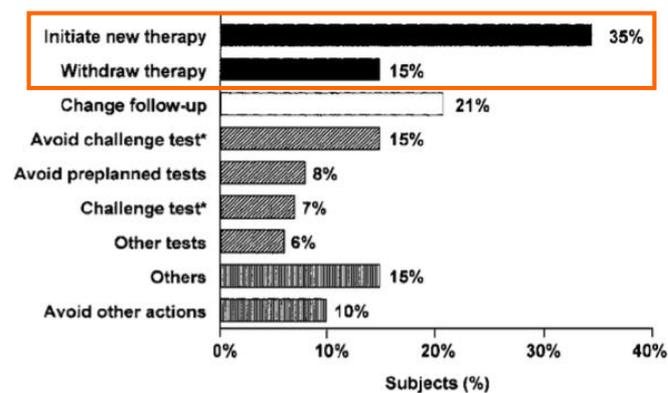


FIG. 5. Changes to planned management after <sup>123</sup>I-Ioflupane SPECT imaging. One patient can have more than one item. Challenge tests: L-dopa or apomorphine

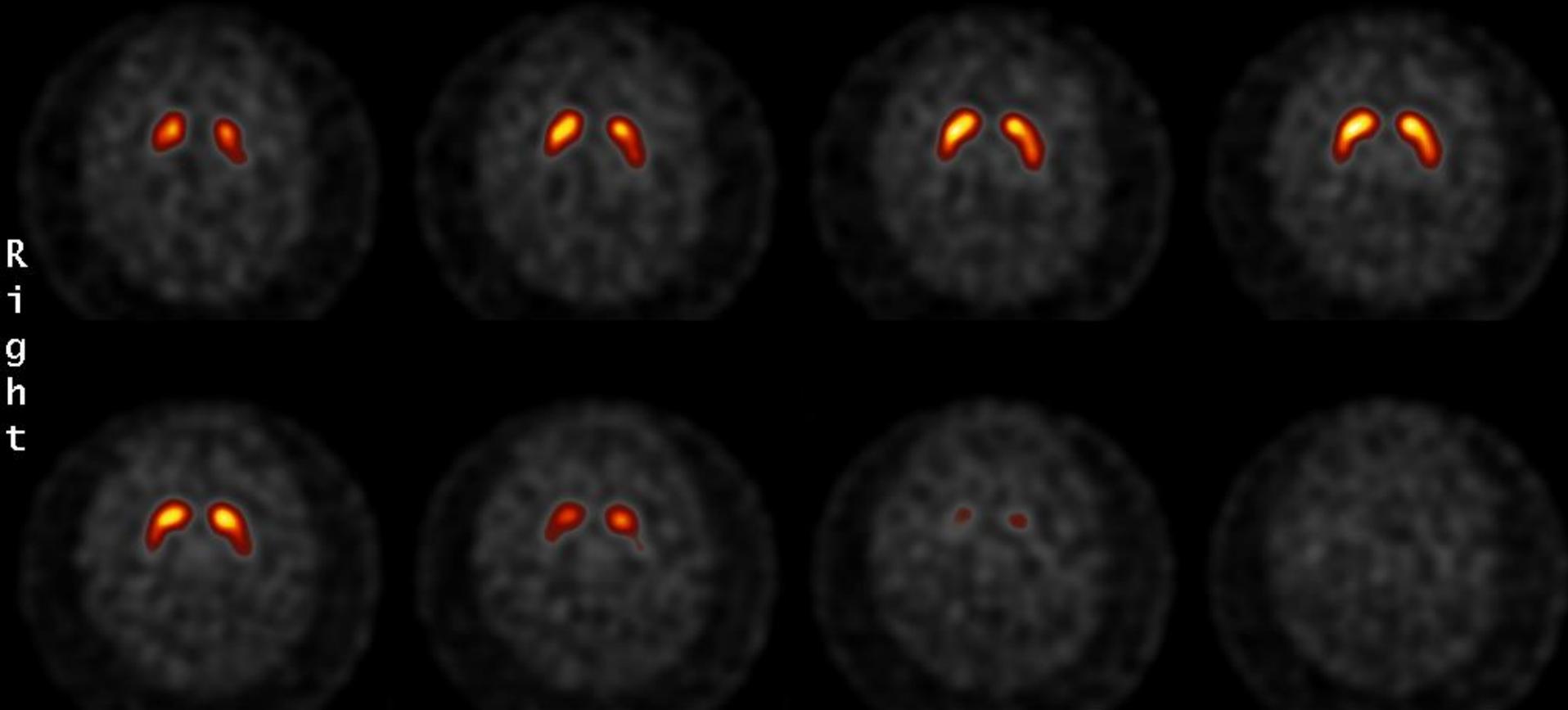
Catafau et al. Mov Disord 2004

# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

## Cas #1

Femme, 74 ans

*Tremblement membre supérieur droit*

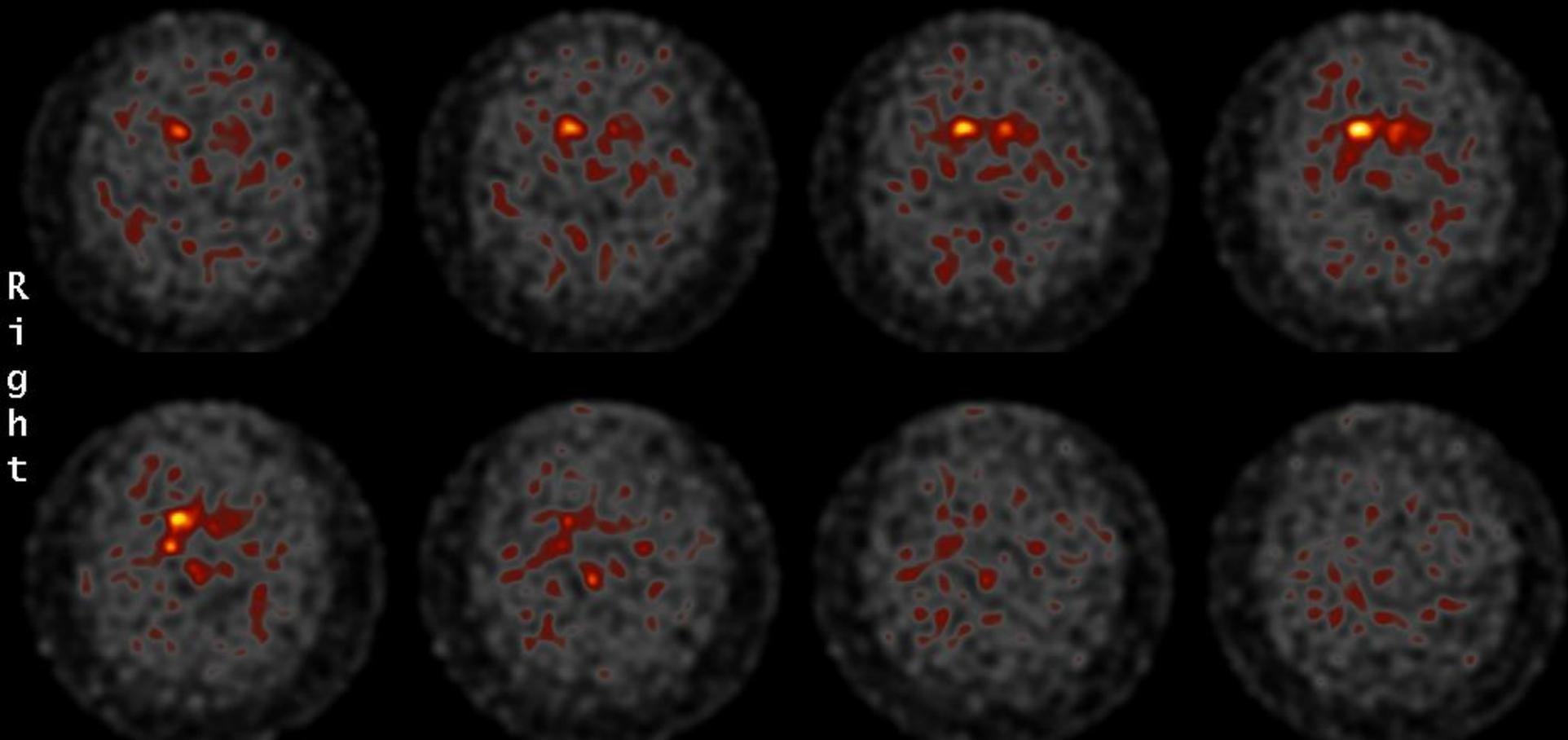


# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

Cas #2

Homme, 54 ans

*Syndrome akinéto-rigide prédominant à droite, tremblement de repos*



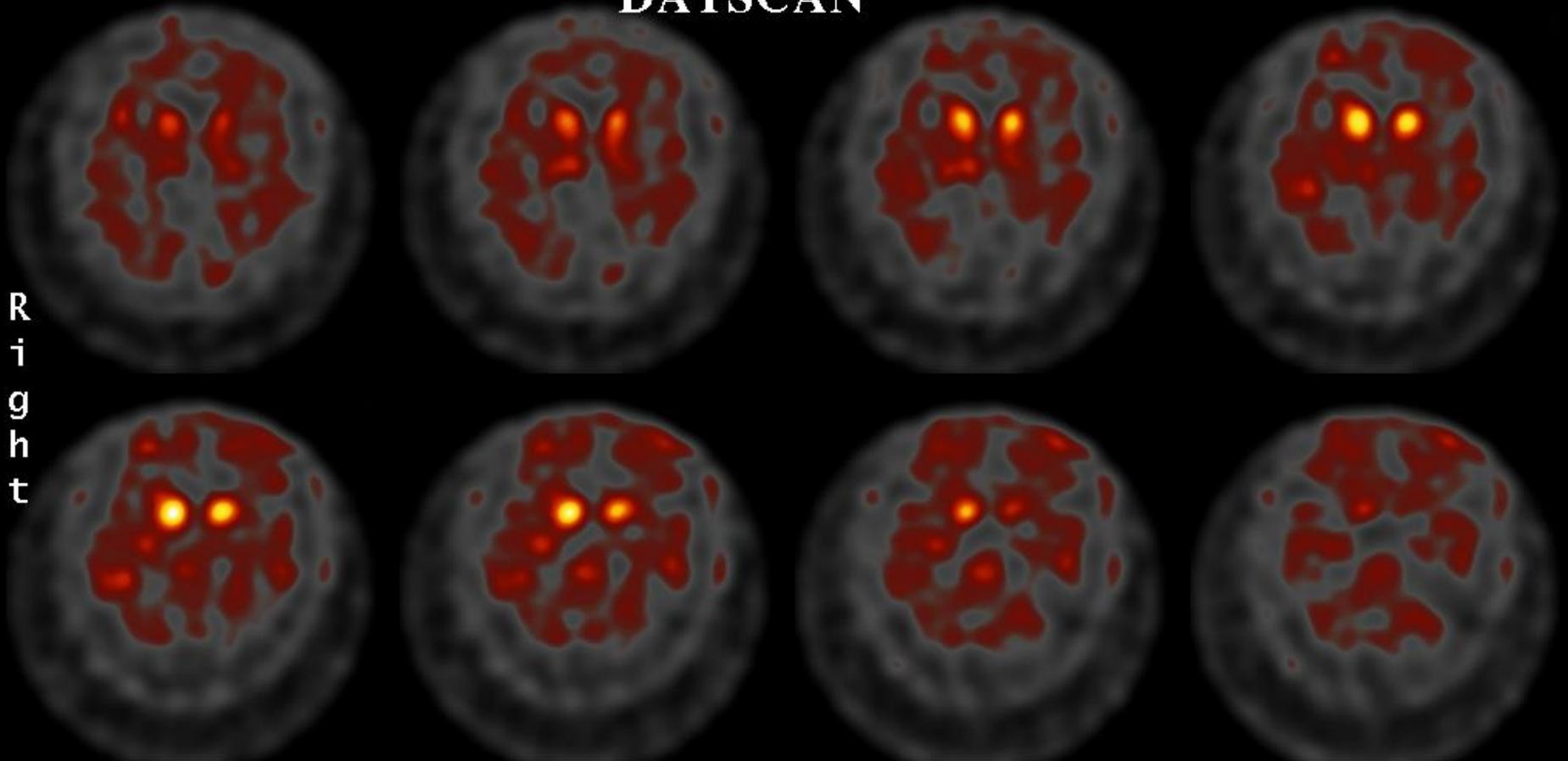
# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

Cas #3

Homme, 69 ans

*Syndrome parkinsonien, troubles cognitifs, hallucinations*

DATSCAN



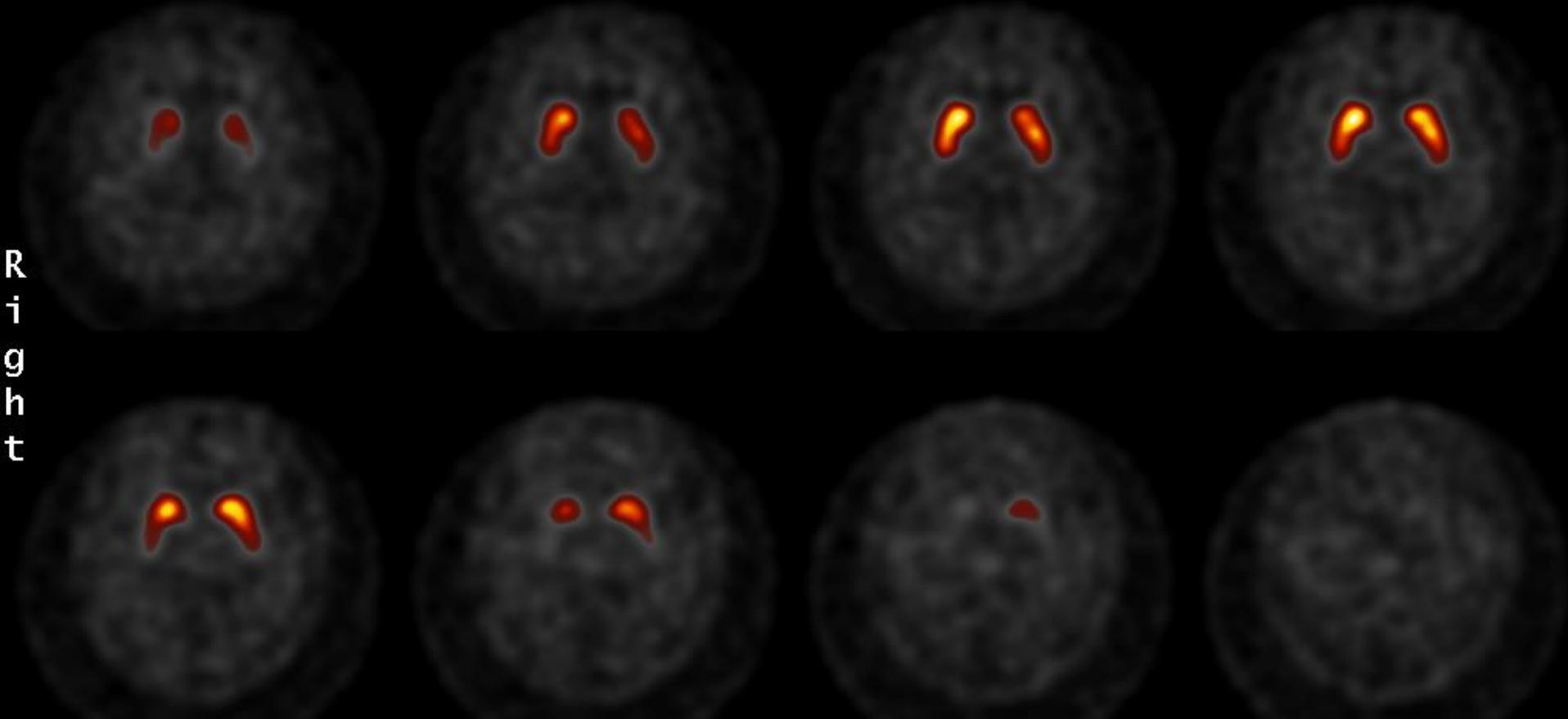
# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

## Cas #4

*Homme, 65 ans*

*Syndrome parkinsonien*

*Schizophrénie sous neuroleptique*

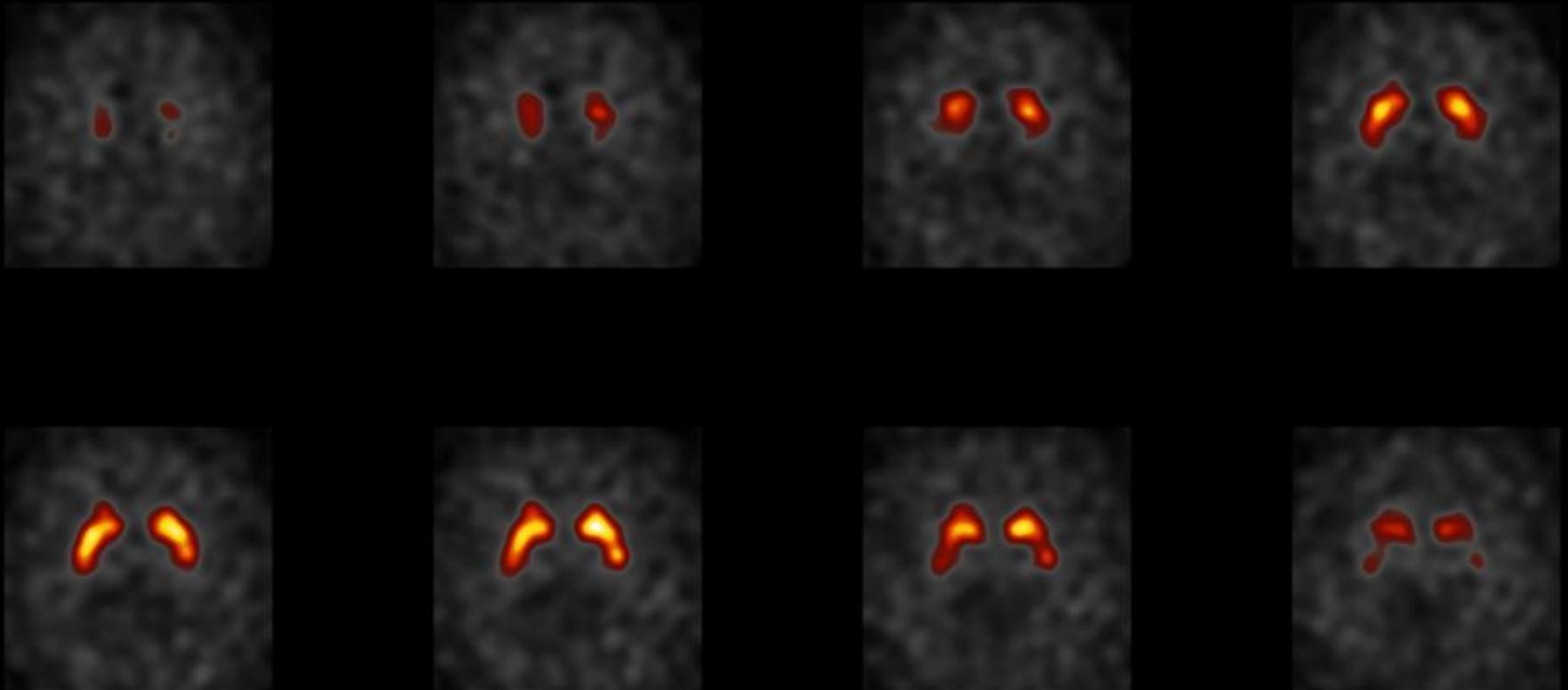


# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

Cas #5

Homme, 60 ans

Syndrome cérébelleux

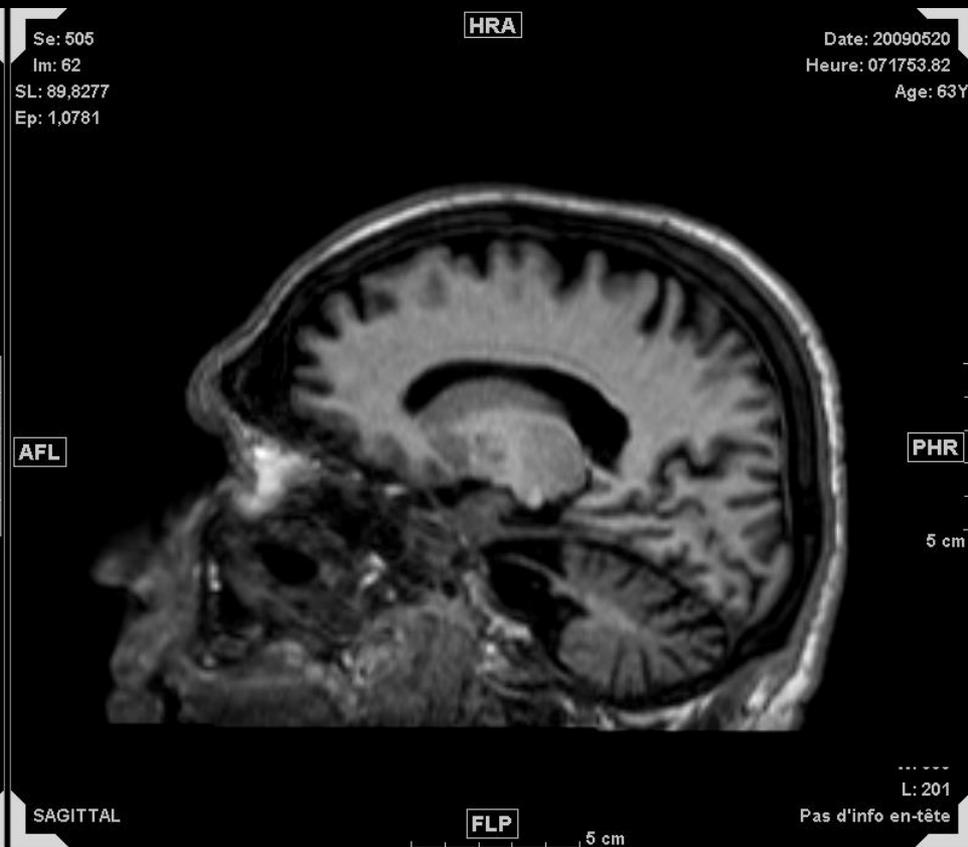
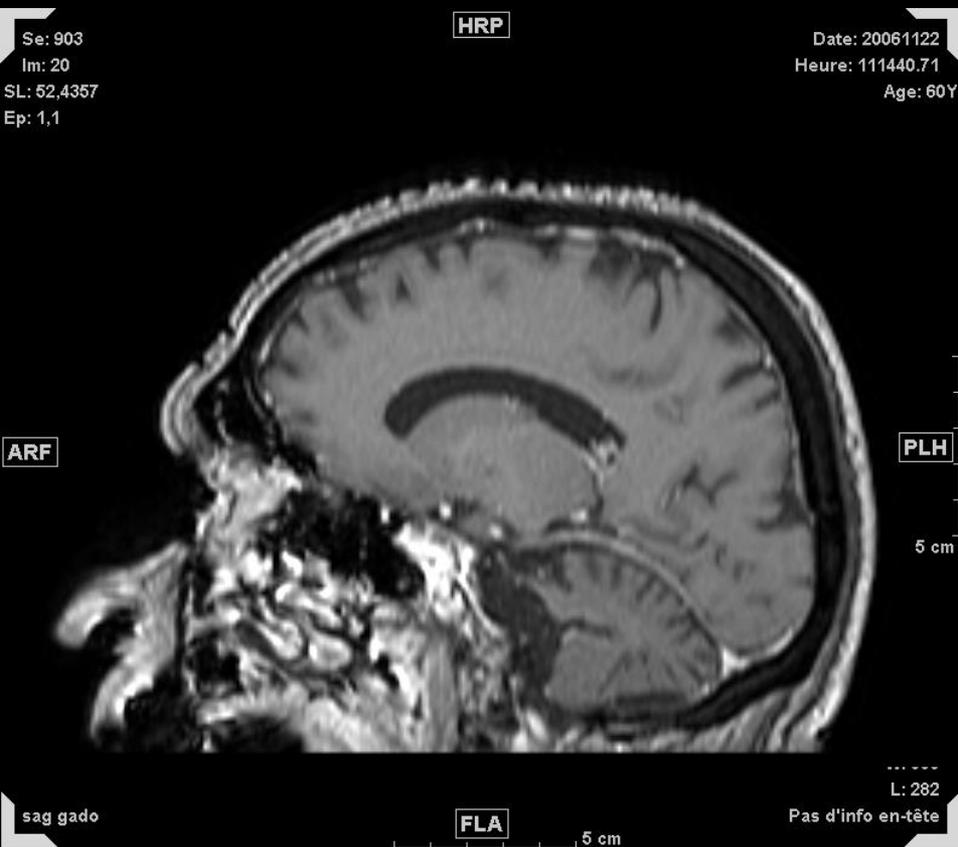
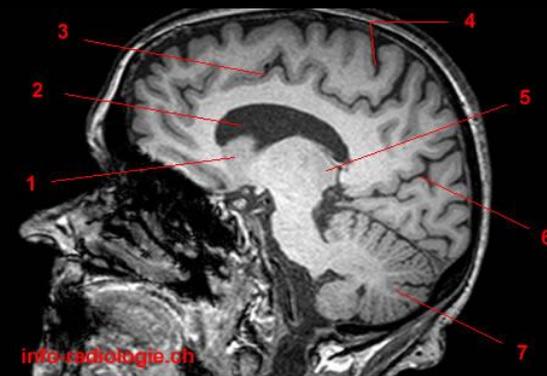


# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

## Cas #5

Homme, 60 ans

Syndrome cérébelleux



# Innervation dopaminergique : $^{123}\text{I}$ -Datscan

**Cas #6**

*Femme, 61 ans*

*Troubles de la marche, troubles du sommeil paradoxal, troubles du transit*

